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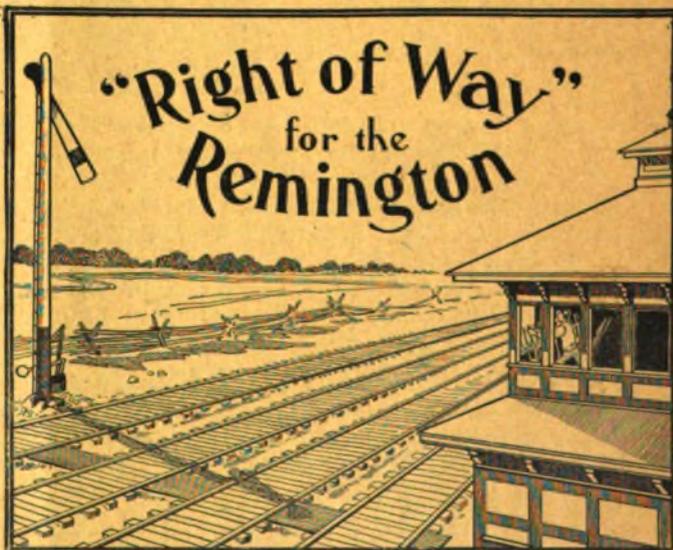
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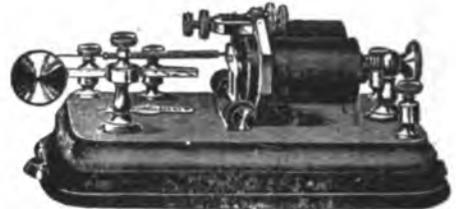
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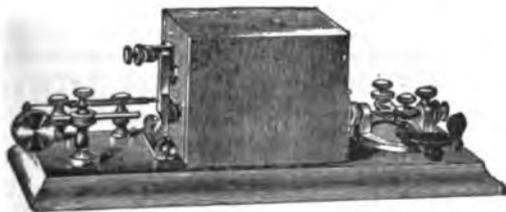
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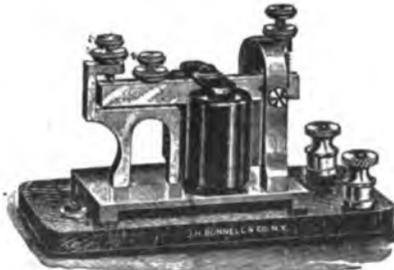
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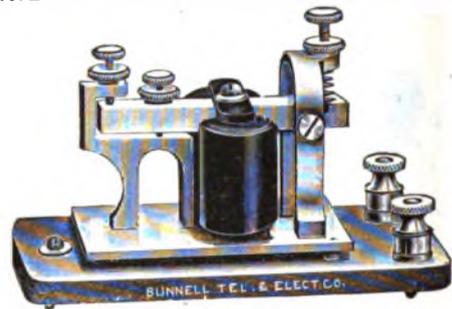
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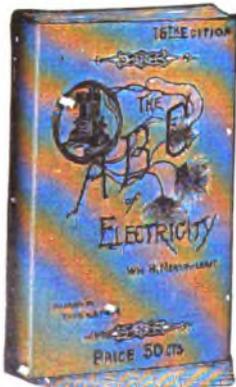
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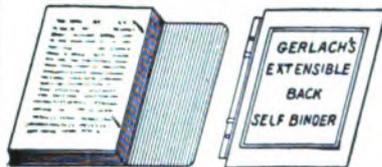
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THE TELEGRAPH AGE.

No. 7.

NEW YORK, APRIL 1, 1901.

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identical in all respects with its companion on the first side of the table. Each relay in Mr. Roberson's system is independent of the other, and as long as one side of the quadruplex is workable the other will continue to hold out. At the same time, it must not be inferred that these instruments respond to direction of current after the manner of polarized relays on the first side of the present quadruplex system, but rather that each instrument is responsive to a maximum degree of magnetism developed in its core by a given polarity of current over and above that which the opposite polarity can excite in the same relay under the existing conditions. As the cores of each relay are permanently magnetized, instead of the armatures, the working margin, ranging as it does between the maximum and the minimum magnetic excitation, is effected by means of the initial magnetism in the cores of strongly polarized relays, the polarity of which magnetism alternately assists and opposes the electric current in magnetizing the relay as explained fully in the preceding chapter.

SOME POINTS ON ELECTRICITY.

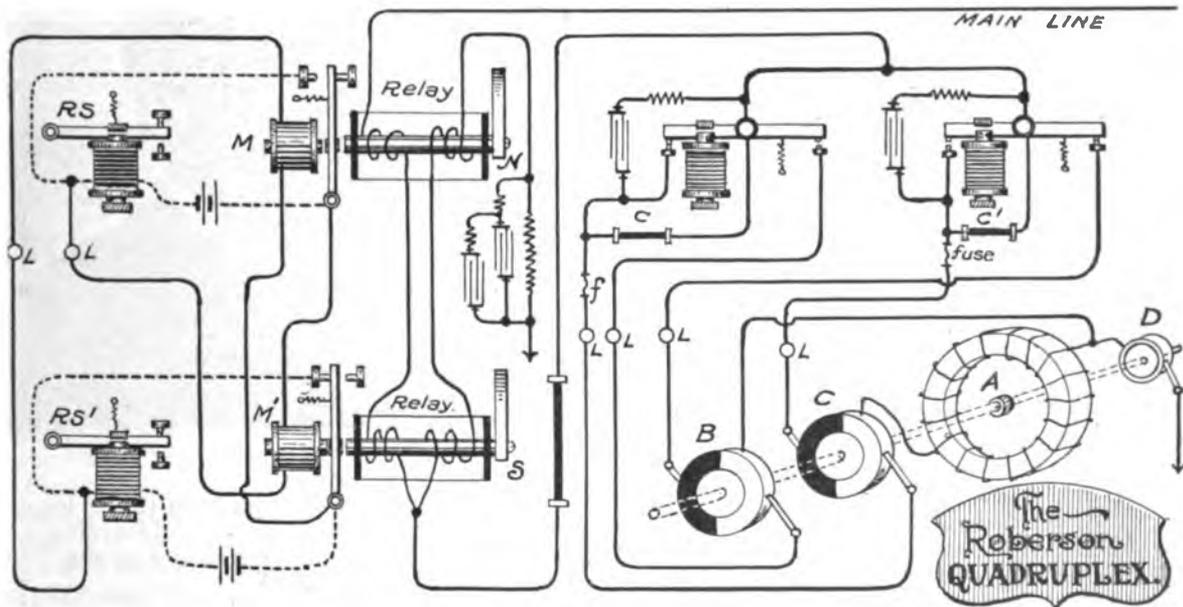
BY WILLIS H. JONES.

The Roberson Quadruplex—Concluded.

As it is the desire of the writer to make each article as complete in itself as possible, it will be necessary, before showing the details of the Roberson

To meet the requirements of his system, Mr. Roberson employs an alternation current dynamo possessing peculiarly constructed rings which are attached to and revolve with the same shaft as the armature, as shown in the accompanying diagram.

Rings *B* and *C* are really but half circles, for the reason that the dark portion of each is insulated



son quadruplex system, to restate that the aim of the inventor is to do away with the present increment of current plan, upon which principle the common side relay of the Edison quadruplex is actuated, and in its place substitute a relay responsive to polarity only, and in principle and efficiency

and therefore "open" during the time the upper brush makes contact there. *D* is a full metal ring making continuous contact with the earth by means of a brush. Half ring *B* is also a "ground," being connected with *D* on the same iron shaft.

Half ring *C* sends positive impulses into one

brush during half a revolution of the armature and negative into the other brush during the other half revolution. The front contact point of one transmitter is assigned to one of these brushes while the rear contact leads to one of the ground brushes of that half of ring *B* which grounds the open point of the same transmitter at that time.

The front and rear contact points of the companion transmitter are connected similarly to the opposite polarity brush of *C* and the remaining ground brush of *B* (see cut).

These rings and armature revolve with a frequency of about 40 periods per second, hence when both transmitters are closed the copper portion of *C*, touching first one brush and then the other in rapid succession, as it does, necessarily sends an alternating current through the wire. Should but one transmitter be closed, impulses of the polarity assigned to that instrument alone fills the line. With both keys open no impulses go to the line.

An incoming signal checked by like poles to line is registered by the home battery through the artificial line coil in the same manner that obtains in the present quadruplex system.

The only accessories in the way of apparatus not usually employed on the polar side of a quadruplex are one repeating sounder and one extra magnet, *M*, which are connected in multiple for best results. The former serves in its usual capacity as a "bugcatcher," while the magnet tends to hold the relay armature steady and maintain a perfect adjustment, whether one or both pulses are being received from the distant station. The two carbon rods, *C* and *C'*, contain about 6,000 ohms resistance each and are used to shunt the front contact points of the respective transmitters, thereby maintaining a weak current through the open points of the transmitters to the earth and preventing excessive sparking.

Condensers are, of course, employed in their usual capacity. The reader will understand Mr. Roberson's system readily if he will but study the accompanying diagram carefully.

The practical results obtained from Mr. Roberson's quadruplex have been very satisfactory indeed, but owing to a somewhat deep-seated prejudice on the part of telegraph employes against using any new system employing an alternating current or otherwise suggestive of vibratory tendencies, he has had rather uphill work. Recent tests, however, made, and work done on this quadruplex have proved conclusively that his system develops no more inductive effects in other circuits than that of the present quadruplex; and that the so-called "induction" credited to the later invention arose from another source entirely.

His currents so far have been generated from comparatively small machines, which fact suggests that still better results may be expected with the employment of larger and steadier running dynamos.

The impression gained that each such quadruplex will require an individual machine for its operation is erroneous. With a machine of proper capacity it will only be necessary to add two rings

to the common shaft for each additional quadruplex circuit.

Mr. Roberson has on several occasions demonstrated that he can "quad" a much smaller wire than would be possible with the old system, and with one of the many good wires assigned to his circuit, he is getting two sides out of it regardless of rain or fog; in fact up to the present writing his hope has been strengthened by the fact that one of the longest circuits from the Western Union Telegraph office, 195 Broadway, New York, equipped with his apparatus, has not failed to yield two good sides on this size and kind of wires, regardless of the weather and at such times when all other long quadruplex circuits were reduced to duplexes.

[The writer of "Some Points on Electricity" would be pleased to have readers of this journal ask questions appertaining to electrical matters of interest to telegraphers which may be answered under the above caption.]

(To be continued.)

Death of L. D. Parker.

Leander D. Parker, late general superintendent of the Postal Telegraph-Cable Company, Chicago, Ill., died at his home in Evanston that State, on March 19, after an illness of three years. He was



THE LATE LEANDER D. PARKER, OF CHICAGO.

born at Stuckly, Lower Canada, in 1837. He came to this country at an early age, and learning telegraphy, in 1850, he became manager of the "Wade Line" office at Ashland, O.

In 1855 he removed to Chicago and entered the service of the Illinois and Mississippi Telegraph Co. At the beginning of the Civil War in 1861, he joined the army and was assigned to duty as military operator at Cairo, Ill.

He served under General Grant, and at the battle of Pittsburg Landing rendered conspicuous service. A cable had been laid across the river at that

point, but proved to be too short by several feet. To overcome this difficulty the end was fastened to a tree that projected some distance over the water, and here, among its branches, Mr. Parker established his office. His instrument rested on the tree trunk, a limb held his letter clip and paper, and Mr. Parker long sat astride of his office sending and receiving important dispatches.

He remained in Government service, connected with the Army of the Tennessee until 1863, when he returned North and renewed his service with the Illinois and Mississippi Company. He was manager at Quincy, Ill., for several years prior to 1869, when he was appointed chief clerk to the district superintendent of the Western Union Telegraph Company, at Chicago, and was made assistant superintendent in 1880.

In 1881 he left this position and was appointed assistant general superintendent of the Mutual Union Telegraph Company, which had then just been organized. In the fall of 1882 he undertook the construction of the western portion of the Postal Telegraph Company's line, completing the same into Chicago early in 1883. Soon after its completion he was appointed general superintendent of the Postal Telegraph-Cable Co., a position he held until January 1 last, when he retired from active telegraph service on account of ill health.

The funeral services were held at Evanston on Thursday afternoon, the 21st inst. These were impressive and contained a reference to Mr. Parker's long connection with the telegraph, his identification with the United States Military Telegraph Corps, of which he was one of the organizers and the first vice-president, together with the fact that he was also a member of all of the various telegraph societies. He was a prominent Mason, and the services at the grave were conducted under the auspices of that order.

Every superintendent and many of the employes in the Western Division of the Postal Telegraph-Cable Company, as well as representatives from railroad and other commercial telegraphs of the West, attended the services. Mr. Charles P. Bruch, assistant general manager, and Mr. T. E. Fleming, special agent, of New York, were present representing the executive officers of the company.

Among other telegraph people present were: Edward J. Nally, Mr. and Mrs. Charles M. Baker, Mr. and Mrs. W. I. Capen, William R. Holligan, George M. Dugan, C. F. Annett, A. R. Swift, William J. Lloyd, A. C. Murphy, Joseph Uhrig, Edward Bell, J. D. Clark, J. S. Robinson, Henry W. Plum, E. E. Naugle, Frank J. Loesch, C. F. Loesch, James E. Pettit and Edward Sholes, of Chicago; F. W. Conger, of Cincinnati; Guy E. Paine, of Kansas City; Henry J. Kinnucan, of Detroit; Mr. and Mrs. H. A. Tuttle, of Minneapolis; F. W. Samuels, of Indianapolis; C. F. Fox, of Des Moines, Ia.; E. P. Whitford, C. W. Potter, W. J. Wall, C. W. Tatge, C. Myers, F. W. Rothery, L. R. Thomas, Mrs. A. W. Porter, Elizabeth M. Carson, Miss Nellie Veale, Miss Maggie Veale, Thalia N. Brown, E. H. Baker, Dr. J. B. Baker, T. W. Sullivan, J. T. Herza, John Holt, E. E. McClintock and C. W. Plum, of Chicago, Ill.; W. H. Alexan-

der, of Omaha, Neb.; Prof. F. A. Parker, of Madison, Wis.

Death of E. M. Shape.

Emil M. Shape, chief operator of the Western Union Telegraph Company, Milwaukee, Wis., one of the best-known and expert telegraphers in the United States, died suddenly of pneumonia in that city on March 21. Mr. Shape was born in Saxony, Germany, December 25, 1842, and came to this country when but 12 years of age, finally settling in Milwaukee in 1857. In the following year he began the study of telegraphy, in which he speedily became proficient. Entering the railway telegraph service, he became an assistant train dis-



THE LATE EMIL M. SHAPE, OF MILWAUKEE.

patcher, but this he soon abandoned for employment with the Western Union Company at Milwaukee. Early in 1864 he entered the army as a military telegrapher, first at Nashville, Tenn., shortly after being transferred to the headquarters of Gen. Geo. H. Thomas, commanding the Department of the Cumberland, where he remained as operator and confidential cipher clerk until the close of the war. He then returned to Milwaukee and again entered the employ of the Western Union Telegraph Company. He was appointed chief operator in 1867, a position he continued to hold up to the time of his death. His funeral was attended by a large number of members of the fraternity.

Recent Telegraph Patent.

Mr. Emmet Howard, manager of the Western Union Telegraph Co., Memphis, Tenn., has been granted a patent for a manifold telegraph blank

Obituary.

Omas H. Cotton, of Mt. Vernon, O., an operator, committed suicide on March 9. He had lost his position on account of telegrapher's paralysis, and worry over the fact caused the act.

John Morgan, aged 65 years, for many years manager of the Western Union Stockyard office at West Albany, N. Y., died at that place on March 8. He was the brother of Mr. M. L. Morgan, manager of the Western Union Telegraph Company in Albany.

Dr. William F. Channing, son of Rev. William Ellery Channing, the celebrated Unitarian divine and author, died March 19, in Boston, Mass., at the age of 81. Dr. Channing was the inventor of the fire alarm telegraph system as used to-day, and was a profound student of electricity.

Joseph H. Walton, one of the best-known and most expert telegraphers of Boston, Mass., died in New York of heart failure on March 16. He spent most of his life in Boston in the employ of the Western Union Telegraph Company. He left the telegraph service last fall on account of ill health and came to New York to assist his brother in outside business. He was 45 years of age and unmarried. His funeral was largely attended by comrades, including Inspector F. T. Viles, Traffic Chief Dougher, All Night Chief James B. Colson, Night Traffic Chief Roorbach, Wire Chief Nason, Repeater Chief M. C. Harrington, Caleb Pope, George Cunningham, David Bailly, Stokely Johnson, W. A. Hancock, Harvey Ross and T. C. Devine.

Col. George B. Cowlam, of Madison, Ind., a member of the United States Military Telegraph Corps, died of apoplexy in New York city on March 11.

He joined Duryea's Fire Zouaves at the outbreak of the Civil War and took part in several engagements. He was detailed to the telegraph department of the army and became chief telegrapher under General McClellan. He was at Newport News at the time of the famous battle between the Monitor and Merrimac. Plum's history of the United States Military Telegraph Corps says of him:

"Suddenly, amid the deep reverberations of the heavy guns, Cowlam, at Newport News, called up Fort Monroe, and, referring to the Merrimac, thus pictured the scene of that eventful day, March 8, 1862: 'She is steering straight for the Cumberland. The Cumberland gives her a broadside. She keels over. Seems to be sinking. No, she comes on again. She has struck the Cumberland and poured a broadside into her. God! The Cumberland is sinking. The Cumberland has fired her last broadside.'"

Gallant Cowlam continued at his instrument, describing each new phase in the fight. Two shells tore through his office, but there was the same steady hand at the key.

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Personal Mention.

Mr. James D. Reid, affectionately known as the "Father of the Telegraph," is very seriously ill at his home in New York city, a result due to an operation for cancer.

Mr. Charles W. Price, editor of the Electrical Review, New York, and well and favorably known in telegraph circles throughout the country, was recently elected treasurer of the Lotus Club, one of New York's most prominent clubs.

Mr. William J. Latta, of Philadelphia, has resigned the presidency of the Telephone, Telegraph and Cable Company of America, of New York city. He is still a director and a member of the company's executive committee.

Mr. W. C. Humstone, superintendent of the Western Union Telegraph Company, New York, has returned from Florida, accompanied by his wife. The trip was undertaken for the benefit of her health, which has become much improved.

Mrs. Isabel Field Judson has sent to the National Museum the half American, half British flag used by her father on board the United States frigate Niagara in 1856-57 in laying the first Atlantic cable. This flag, which is 45 feet long, having a triangular division of the flags of the two countries, completes an already fine Field collection now in the museum. It was made under Field's immediate direction, and in addition to waving from the Niagara at the laying of the first cable, floated from the Great Eastern in 1866 and 1867 when the second cable was laid.

Sir Henry McCallum, the new Governor of Natal, South Africa, is an old telegraph operator, and has been stationed in Newfoundland. He was with General Kitchener at the War College, graduating in 1871, when he became superintendent of military telegraphs for the southern district of England. He is able, according to an exchange, to build a bridge, a highway or a conduit, to construct a railroad, to set up, run and repair a locomotive; to operate electric wires and control a telegraph system, to survey a territory, to build forts and plan defenses, to organize and preside over a municipality, and to administer a territory as large as the British Isles. His record, in college or in the colonies, is a unique one, and few of the British colonial staff can show a round of such conspicuous and unbroken success in so many diverse capacities.

Recent New York Visitors.

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

Mr. C. M. Baker, general superintendent of construction of the Postal Telegraph-Cable Co., Chicago, Ill.

Mr. W. Y. Ellett, superintendent of Fire Telegraph, Elmira, New York, who was the guest of Mr. Frank C. Mason, superintendent of Police Telegraph, Brooklyn, N. Y.

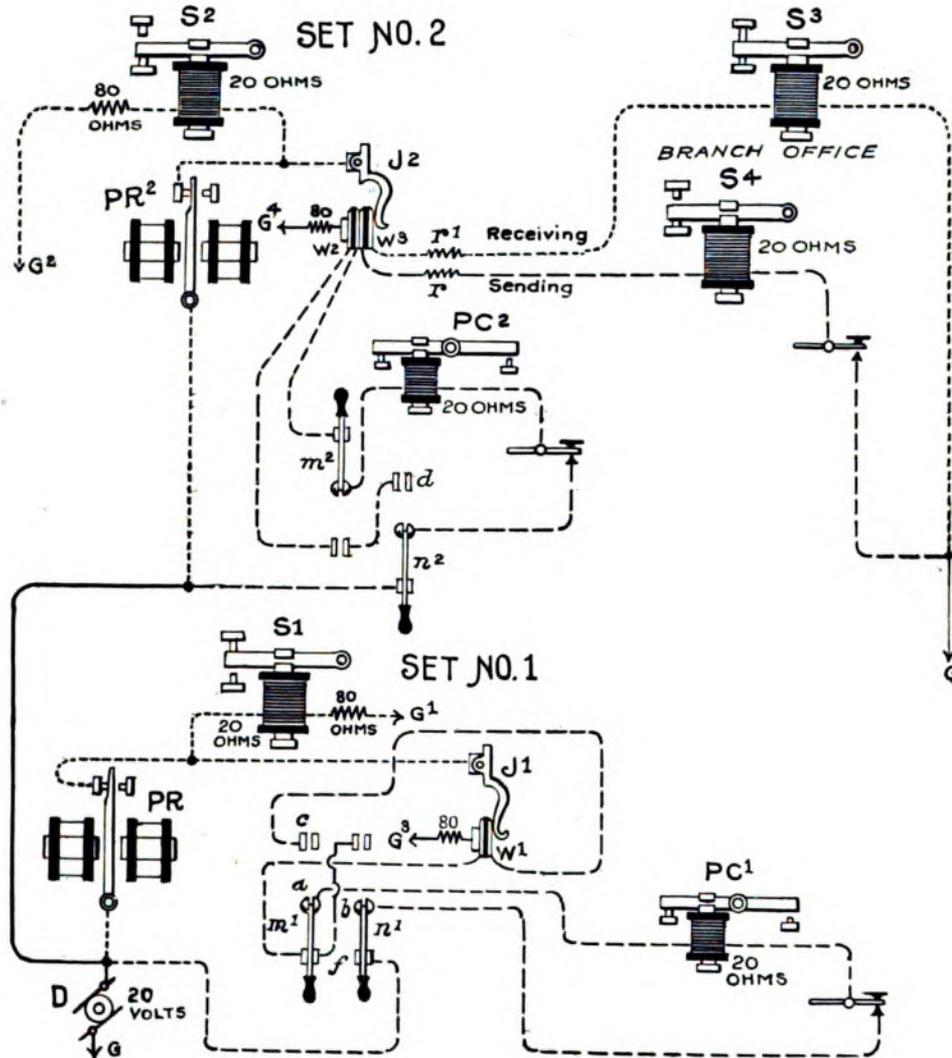
ARRANGEMENT OF LOCAL CIRCUITS ON CANADIAN PACIFIC RAILROAD.

BY H. S. WEBB.

A very interesting paper, by Mr. W. J. Camp, superintendent of the Canadian Pacific Telegraphs, appeared in the Canadian Electrical News on "The Use of the Dynamo and Storage Battery in Telegraph Offices." The readers of TELEGRAPH AGE are already familiar with more or less of the elementary matter on duplex and quadruplex systems contained in the article. However, we do

not believe the switch arrangement for the local circuits are so well known but that they will stand being explained here. For the benefit of TELEGRAPH AGE the liberty has been taken of rearranging the matter somewhat and only using the part that would be of most interest.

On the Canadian Pacific Railroad the local sounder, pole changers and transmitters are wound to a resistance of 20 ohms. They could all be connected in multiple to a 6-volt dynamo, but in nearly every office where dynamos are used the local circuits of the multiplex set are con-



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on the polar relay PR_1 , 20-ohm sounder S_1 , 80-ohm coil, grounds G_1 and G to dynamo D . A branch or leg, as it is called, passes through jack J_1 , but is open at c . The sending circuit may be traced from the dynamo D , through the switch n_1 , key k_1 , 20-ohm pole changer PC_1 , switch m_1 , wedge W_1 , lower or back contact of the jack J_1 , 80-ohm coil, ground G_3 and G to dynamo D .

To extend the locals of a duplex to a branch office, the loop wedge W_3 is inserted in the spring jack on top of the wedge W_2 , the switch m_2 is turned up and the switch n_2 is turned down, as

shown in the upper half of the figure. The circuits are then as follows: Receiving side; dynamo D , polar relay PR_2 , sounder S_2 , 80-ohm coil, ground G_2 ; also through the branch or leg from the contacts of the polar relay PR_2 to the top of the jack J_2 , front of wedge W_3 , resistance coil r^1 , receiving side of the branch office loop, branch office sounder S_2 and ground. The resistance coil r^1 is adjusted so as to make the circuit from the wedge to the branch office ground have a total resistance of 100 ohms, including the branch office sounder. Sending side: Dynamo D , switch n_2 , key, pole changer PC_2 , switch m_2 , front of wedge W_2 , back of loop wedge W_2 , coil r , sending side of the branch office loop, branch office sounder S_4 , key and ground. The resistance from the wedge W_3 to branch office ground is 80 ohms, including the sounder S_4 . On this circuit the resistance of the pole changer PC_2 is added, thus making a total of 100 ohms.

To work as repeaters the wedges of the two sets are exchanged, wedge W_1 of the No. 1 set being inserted in jack J_2 , and wedge W_2 in jack J_1 ; the table switches m_1 , m_2 , n_1 and n_2 on each set are turned up. The circuit may then be traced from the ground G , dynamo D , contact of the polar relay PR_1 , 20-ohm sounder S_1 , 80-ohm coil and ground G_1 ; also from the polar relay contact to top of jack J_1 , front of wedge W_2 , m_2 , pole changer PC_1 , key, switch n_2 , d , back of wedge W_2 , lower part of jack J_1 , 80-ohm coil and ground G_3 . The circuits from No. 2 set are the same. A break at the contacts of either relay will open its sounder and also the pole changer of the other set. Thus, signals received from the line on No. 1 set are automatically transmitted over the line connected to No. 2 set, and vice versa.

Sometimes the dynamos are operated from a common shaft driven by an electric motor or other power, but the plan most generally adopted is to use motor generators, each machine working independently. In order to be reasonably certain of a continuous supply of power, spare leads are run to different power stations, and spare machines are also kept in readiness, so that not more than a minute or so is lost at any time.

In cities where continuous power cannot be obtained from at least two different stations, storage batteries are now largely used. Generally speaking, the wiring of a telegraph office, from the discharge leads of a storage battery to the instruments, etc., is the same as for dynamos, but extra switches have to be used for connecting the various banks of battery with the charging or discharging circuits. Various devices are used, but as the Canadian Pacific Railroad system is considered the most flexible, it will be described alone.

At Vancouver the voltage of the Winnipeg street railway power circuit is transformed by two motor generators, one reducing it to 7 volts, or 20 amperes capacity for charging local batteries, and the other to 130 volts, 5 amperes for main batteries. In Ottawa a 250-volt power circuit is reduced to 7 volts for the locals and the mains are charged direct without reduction. In St. John the 114-volt lighting circuit is used. The locals are in two

banks, of two cells each, of chloride accumulator, type E 9, one bank being charged while the other is discharging. There is no dead resistance inserted in the local circuits, as in the case where dynamos are used, extra cells providing the necessary power when quadruplexes or duplexes are extended to branch offices.

In many places on Canadian Pacific lines, storage batteries are used in place of dynamos and in such cases no resistances are inserted in the local circuits but extra cells are used, thus providing the necessary power when the quadruplexes or duplexes are extended to branch offices. When storage cells are used for the main batteries, the switch consists of a series of spring jacks and wedges, so designed that the jack is open and a wedge cannot be inserted when reversed. The negative pole of the battery is connected to the top of a wedge and the positive pole to the bottom. It is predicted that shortly storage cells will replace gravity batteries even for locals at wayside stations; the storage cells will be charged at some central point and distributed by train to the wayside stations.

Building Ocean Cables.

Considerable attention was recently attracted to the subject of ocean cables and the possibility of their construction in Pittsburg, Pa., where is located one of the largest cable manufacturing concerns in this country, by an address delivered a short time ago by Mr. Joseph W. Marsh, vice-president and general manager of the Standard Underground Cable Company, of that city. Mr. Marsh's address was an able one and briefly he sketched the history of cable making and laying, and then spoke of the possibility of developing to a greater extent the industry of making cables in this country. Mr. Marsh is especially fitted to discuss the subject of cables, and his timely allusion to the fact that another industry might be reared in the United States is of great benefit. Mr. Marsh was born in New York city. He was reared in Tuscarawas county, near Coshocton, O., and went to Pittsburg, January 2, 1870, to attend a course at the Iron City College. He became one of the professors of the institution and was connected with it for nearly three years. He then accepted a position as bookkeeper and stenographer for Baldwin & Miller, telegraph construction contractors. It was during this time he became acquainted with Richard S. Waring. Mr. Waring, with Baldwin & Miller, investigated the question of underground cables. Mr. Marsh became the private secretary for Mr. Waring. Soon after Mr. Waring organized the Standard Underground Cable Company, and Mr. Marsh became connected with it from its inception, excepting two years he was secretary of the Merchants' Telegraph Construction Company, New York. Mr. Marsh became secretary and general manager of the Standard Underground Cable Company, and in 1891 was elected vice-president and general manager, and is the chief executive officer of the company.

The Association of Railway Telegraph Superintendents.

Messrs. L. B. Foley, of New York; J. H. Jacoby, of South Bethlehem, Pa., and H. W. Pope, of Buffalo, N. Y., the sub-committee of the Committee of Arrangements of the Association of Railway Telegraph Superintendents, met at Buffalo on March 13, and arranged with Statler's Pan-American Hotel to accommodate the association during its annual convention to be held in that city June 19, 20 and 21 next. The place of meeting will be in a large parlor provided by the hotel, and the rates, we understand, will be \$2.50 per day, American plan, to each member attending. The hotel is situated within one block of the main entrance to the Exposition grounds, and it is but eighteen minutes' ride on the electric cars from the heart of the city. This hotel is said to be the largest ever constructed, so far as the number of rooms is concerned, and rooms can be reserved in advance by those who intend to be present at the convention. In view, however, of the great number who will visit the Exposition, it is well to make early application. The sub-committee believe that all members who attend will be perfectly satisfied with the accommodation provided. The Committee on Topics, consisting of Messrs. J. H. Jacoby, chairman, of South Bethlehem, Pa.; C. A. Darlton, of Washington, D. C., and U. J. Fry, of Milwaukee, Wis., announce that many extremely valuable papers will be presented at the convention, the reading and discussion of which will prove interesting to those present, and highly beneficial to the railway telegraph service. While the list has not yet been fully completed, the following gives the title of some of the papers, together with the names of their authors:

"Telephones in Connection with Railroading," by F. P. Valentine, superintendent of telephones, New York, New Haven and Hartford Railroad Co., Boston.

"The Storage Battery in Its Application to the Railway Telegraph Service," by W. E. Athearn, of the electrical engineer's office, of the Western Union Telegraph Company, New York.

"The Inefficiency of the Ordinary Operator; Is There a Remedy?" probably by A. R. Lingafelt, superintendent of telegraph, Chicago, Rock Island & Pacific Railroad, Chicago.

"Underground Wires," probably by G. M. Dugan, superintendent of telegraph, Illinois Central Railroad, Chicago.

"Line Construction," probably by C. H. Bristol, general superintendent of construction, of the Western Union Telegraph Company, Chicago.

"Crossing Alarms," probably by U. J. Fry, superintendent of telegraph, Chicago, Milwaukee & St. Paul Railroad, Milwaukee, Wis.

"The Importance of Little Things in Relation to Telegraphic Batteries and Circuits," by Thos. D. Lockwood, the electrical engineer of the American Bell Telephone Co., Boston.

Professor Freeman, of the Chicago University, will contribute a paper treating probably on the construction of telegraph relay from a scientific standpoint.

Mr. William Maver, Jr., of New York, will also have a paper, the topic of which is not yet announced, and something is expected on high-speed telegraphy. There will be a discussion on "cipher code for general telegraph business."

Already a number of exhibits have been promised for the occasion. Ample space will be reserved for those who desire to enter exhibits, and all correspondence on this subject, as well as any other on which information is required, should be addressed to Mr. P. W. Drew, secretary and treasurer of the Association and superintendent of telegraph of the Wisconsin Central Railroad Co., Milwaukee, Wis.

Some Convention Propositions.

In view of the nearness of the dates for the conventions of the League of American Municipalities, and of the International Association of Municipal Electricians, the former to be held at Jamestown, N. Y., August 21-24, and the latter at Niagara Falls, August 27-29, in the week following, a project is on foot which, if carried out in the manner intended, will insure a most interesting and enjoyable program of fraternal meetings and travel to all members who may attend. An interesting mid-date event, additional to those named, and somewhat similar in character, is that of Municipal Day, Monday, August 26, to be observed at the Pan-American Exposition. It is proposed that the members of both conventional parties meet at Buffalo on the day named, and after attendance there proceed together to Niagara Falls, the League men attending the Municipal Electricians' Convention. At its conclusion it is further proposed that a joint trip be taken down Lake Ontario and the St. Lawrence to Montreal, and there join the Old Time Telegraphers, who will hold their convention at that point on September 3. The plan presents features for a delightful excursion and meeting of individuals of closely identified interests, and will no doubt commend itself to many.

A Ludicrous Blunder.

One of the most ludicrous mistakes made by the telegraph was caused by the loss of a single dot in a telegram from Brisbane to a London news agency. As it reached London it read: "Governor-General twins first son," which the news agency "edited" and sent around to the papers in the following form: "Lady Kennedy, the wife of Sir Arthur Kennedy, Governor-General of Queensland, yesterday gave birth at Government House, Brisbane, to twins, the first born being a son." The telegram arriving in the small hours of the morning, there was no time to check it or refer to Debrett, and it was published by most of the newspapers in London and the provinces and caused an unexpected sensation. Sir Arthur's friends pointed out with conclusive force that some one had blundered, as there never was a Lady Kennedy, Sir Arthur being a bachelor. The repeat message, which followed, read: "Governor-General turns first sod,' referring to a railway ceremony.

TELEGRAPH AGE is of value to you.

Capillary Electrometer for Relay Purposes.

As is well known, the Lippmann electrometer consists of a glass tube drawn down to a capillary size at its lower end and filled with mercury. If this tube is made part of an electric circuit, says the *Electrical World and Engineer*, any variation in potential at the terminals of the tube causes the mercury meniscus to move up and down, the extent of the movement of the meniscus measuring the variation in the potential. In a patent issued March 5 to Prof. A. C. Crehore and Capt. George O. Squier, the principle of this electrometer is applied to several new purposes. The space above the mercury is filled with a liquid such as oil and in the oil is located a receptacle, one or both sides of which are formed of metallic diaphragms. These diaphragms are insulated from each other and form terminals of the local circuit, and between them a suitable variable resistance is placed, such as carbon granules. Any variation in the elevation of the mercury in the tubes will cause the diaphragms of the receptacle to be pressed forward, thereby decreasing the resistance through the granular carbon, and vice versa; by placing in the local circuit any device responsive to this variable resistance, the variations in the main circuit may be shown. The meniscus of the electrometer is very sensitive and rapid in its movements, and, therefore, the apparatus is well adapted for use as a receiver for submarine cables. Moreover, it may also be used for other purposes, since it responds quickly to changes of current; a deflection of the meniscus is proportional to difference of potential; it takes no current; the arrangement is dead-beat and responds to exceedingly small voltages.

To Build Alaska Cable.

A submarine cable from Seattle, Wash., to Skagway, with branches to Sitka, Juneau, Ketchikan and other points on the coast, is the project for which has been organized the Northern Commercial Telegraph Company. The company has been formed in London, and has secured a charter so far as Canadian territory is concerned. It is proposed to lay a submarine cable from Seattle to Skagway, taking in Victoria and Vancouver, and all intermediate points along the coast where canneries, mines or other industries are located. A branch telegraph line will also be extended through Dawson to St. Michael. It is possible, too, that lines will be strung up the Skeena and Stikkeen rivers.

To Open the Exposition by Telegraph.

The plans for opening the Pan-American Exposition at Buffalo, N. Y., are assuming definite shape. It has been decided that the Exposition shall be opened on May 1. As at that time President McKinley and his Cabinet are expected to be on their way to the Pacific Coast, it is proposed to connect the President's train by telegraph with the Temple of Music. President McKinley, from his special car, surrounded by his Cabinet, will then start the great fountain pumps and will transmit over the wires a message of greeting.

Publications.

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

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

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

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

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

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

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

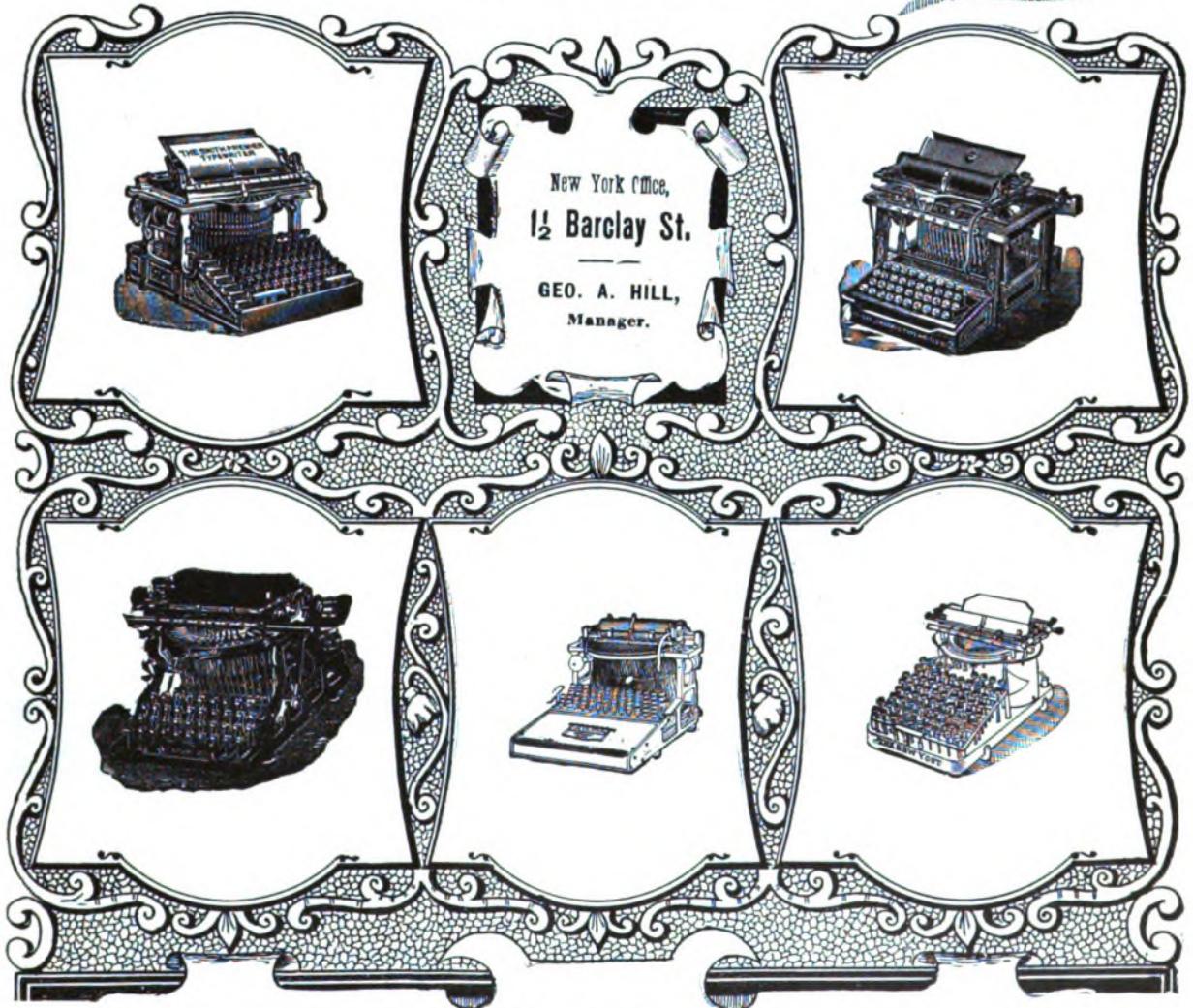
Any of the above publications will be sent on receipt of price to any point in the United States or Canada, express charges prepaid. Address J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

T. M. B. ASSOCIATION.—Assessment No. 377 has been levied to meet the claims arising from the deaths of William W. Thweatt, at Baltimore, Md.; Martin A. Fleming, at Brooklyn, N. Y.; John F. W. Potter, at New Orleans, La.; Adolph G. Hummel, at New York, N. Y., and David M. Hickey, at Dubuque, Ia.

If the Marconi wireless system of telegraphy should be adopted by our merchant marine, will it be necessary to have an operator on each vessel?

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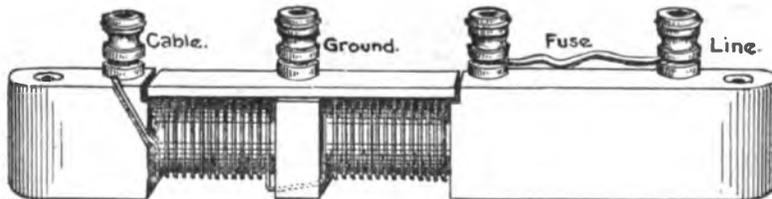
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CHANGES OF ADDRESS.—The address of a subscriber will be changed as often as desired. In ordering a change of address the old as well as the new address must be given.

NEW YORK, April 1, 1901.

Andrew Carnegie.

Andrew Carnegie, the whilom messenger boy and telegraph operator, obtained in forty years vast money possessions. While he accumulated he was a large, generous and just employer of labor, distributing in wages immense sums throughout his career. Now that he has retired from the immediate activities of business, his thoughts and purposes expand in broad measures of philanthropy having in view the permanent benefit of his kind. He does not forget those who toiled in a humbler sphere, and whose united labor contributed to and made his wealth possible, and in a manly farewell letter addressed to these co-workers, he announced the provision he had made for them in a great fund of several millions of dollars set aside for their exclusive benefit when old age or misfortune should overtake them. It was a noble and beautiful action, and will forever stand forth distinctly as an exemplification of the highest type of practical Christianity. Like the rain from the clouds, returning to the earth from whence it came, and carrying refreshment and good in its volume, so he gave back to those from whom in part he derived his power to bestow.

His later act of giving \$5,200,000 for library purposes to the city of New York under conditions that must result in the utmost possible good, in line with an avowed purpose which has found expression in many other places in this country, is another great deed that in its magnificent proportions and far-reaching beneficence, alike entitles the donor to the fervent thanks of the community. It is a pleasure to note the spirit in which these superior gifts are generally regarded and have been received. It rises above all barriers that might be raised by politics and by religious creeds, and stands forth as affording an illustrious example of the common brotherhood of man. Mr. Carnegie has pronounced a valedictory at the close of his

business life that is resounding throughout the world. The telegraph fraternity salutes its distinguished old-time member.

Technical Knowledge and Promotion.

It is frequently asserted that the operators in large main offices take little or no interest in the technical branch of the telegraph. The highly commendable action, however, of the operators of the Postal Telegraph-Cable Company, at Chicago, Ill., in instituting a series of admirable lectures on telegraphic subjects, and conducted under their own control, would seem to refute that statement, at least so far as that office is concerned. It would appear from this evidence of interest shown, and the success which is attending the movement, that it only needed opportunity and proper encouragement to arouse a wider and more general enthusiasm in the matter on the part of telegraphers. We are informed that a great number of the Chicago force have at these meetings laid the foundation for a thorough technical knowledge of the telegraphic art. It costs time, to be sure, to attend such lectures as these, but it cannot be doubted that it is time well spent.

It is the accumulation of technical knowledge, such as there attained, that will be valuable in the future, both to the individual and to the company he may serve. A well-stocked mind of telegraph knowledge in these days is essential, if promotions are to be expected. Favoritism may help an individual temporarily, but he must eventually fail if he does not personally possess merit. We hope that the telegraph company will appreciate the efforts its employees are making in this laudable pursuit of technical knowledge, and will reward them with deserved promotion as opportunities offer. If the average operator might clearly realize that all future advancement could be made from among those members of the force found to be most capable, and not given to favorites from distant points, who frequently are placed in positions ahead of the entire resident staff, who are really entitled to first recognition, he would then understand that it was only a matter of time when his efforts to make himself more useful to the company would be finally rewarded. The uncertainty of reward is what discourages members of the profession more than any other one thing. What is needed first of all in each office is a system of civil service. Then every individual member of the force could look forward to a betterment of his condition. If he failed to qualify himself to occupy the position next in advance of his own, then he alone is to blame, and must of necessity step aside to permit those better fitted to pass him.

We understand that the lectures referred to above have been brought about through the instrumentality of Mr. E. J. Nally, general superintendent of the Postal Telegraph-Cable Company at Chicago. Mr. Nally himself is yet a young man, and began his telegraph career as a messenger boy 25 years ago. His experience has been such that he must realize fully the conditions that confront every young man, and no doubt he is in close sym-

pathy with those below him. Like every other telegraph official, he must of necessity be constantly in search of good men to fill vacancies. He knows the value of education, of telegraphic technical knowledge, the proper keeping of telegraphic accounts, of being neat in personal appearance and exhibiting a spirit of courtesy to every one, qualifications essential to aspirants for promotion. A little admonition, direction and word of encouragement from such a high official source would not be without beneficial effect among employees.

In future, promotions in Mr. Nally's district, at least so far as Chicago is concerned, might be made from among those who are now devoting themselves to study, and, consequently being fitted for advancement; he can create an esprit de corps among the men that will rise to a spirit little short of enthusiasm. Up to a few years ago it used to be customary whenever a capable telegraph engineer was needed, to look to Buffalo, N. Y., for such an one, where at that time an electrical society of international reputation flourished. We hope that a like reputation may fall upon Chicago.

A Reprehensible Practice.

Printed circulars emanating from St. Paul, Minn., which call attention to the case of a destitute telegrapher in Omaha, Neb., for whom financial aid is solicited from the telegraphic fraternity at large, and stating that the columns of TELEGRAPH AGE would be used to account for all money received in the form of a published list of donors, is being circulated throughout the country. It need hardly be said that we were never communicated with or consulted in regard to the issuing of this circular, which, under no circumstances, would have received our sanction. TELEGRAPH AGE is made therein to appear as if its approval of this circular had been obtained, while on the contrary it knew absolutely nothing of its appearance. Those who engage in such undertakings should at least be careful in their premises and not make misrepresentations, and thus convey abroad false impressions, however unintentional. TELEGRAPH AGE can not and does not for obvious reasons engage in affairs of this kind. Whatever their merits, such cases are entirely too numerous to even receive mention in these columns, and should more properly be met by local action.

Another Franchise Needed.

Some time ago, when the Western Union Telegraph Company endeavored to string its wires in Toledo, O., for the purpose of conducting a district messenger service through the medium of the usual call box system, the company was enjoined by the city officials from completing the work, it being asserted that it would be necessary for the company to obtain a proper franchise from the City Council; that the franchise which permitted the telegraph company to do a regular telegraph business did not cover the messenger call box service.

The Telegraph Company won the case in the United States Circuit Court. This favorable de-

cision was reversed in the United States Court of Appeals at Cincinnati, O., on March 5.

Improved Automatic Telegraphy.

Mr. Patrick B. Delany the electrical engineer and expert telegrapher of South Orange, N. J., has recently greatly improved his automatic telegraphic system, and rendered its operation one of extreme flexibility. This automatic system, as originally constructed, required that the messages be prepared on tape by specially constructed punching machines, after the manner of the Wheatstone system. This practically necessitated the learning of a new trade, and telegraph officials did not, therefore, take kindly to such sweeping changes in their mode of operating the wires. Mr. Delany's improvement consists of inserting in an ordinary telegraph circuit (local or main) a simple punching device, which is operated by the Morse key. The American telegraph alphabet, which is made up of dots, dashes and spaces, or any other telegraph alphabet, can be used by this system. The tape is punched with two rows of dots, which, when run through the automatic transmitter, are received either by sound at the distant point, or, if a speed beyond the limit of typewriter receiving be required, messages may be recorded on chemically prepared tape, in the usual dot and dash style, at 2,000 words a minute if necessary. It is claimed that by this system every Morse operator in the country is at once available as a machine operator, his work being exactly as in operating a circuit in the ordinary way. Moreover, the perforating machine can be worked hundreds of miles away from the sending key, in circuit with ordinary relays and sounders, so that branch or outlying offices can perforate their messages at the distant central or relaying station with the same facility as though the key and punching machine were side by side. This will enable the accumulation by ordinary Morse transmission, of business from all branch lines at central points of distribution ready for forwarding over trunk lines by the rapid-machine system. Taking advantage of the static capacity of the line, which was previously thought to be a detriment to good working, the recording of the messages in regular Morse dots and dashes is effected without the slightest "tailing" or running together of signals.

GOVERNMENT TELEGRAPHS.—The United States Senate, just before adjournment, adopted an amendment directing the Postmaster-General to make an investigation of the question of a postal telegraph system and report his findings to Congress, together with the probable cost of establishing the system.

Mr. C. M. Baker, general superintendent of construction of the Postal Telegraph-Cable Company, Chicago, Ill., some time ago received the following message, which he thinks is worthy of record, to show what ludicrousness may result from the improper dividing of a word: "Trouble on No. 2 three miles north Rat on wire, shot off."

The Telegraph Monopoly.

We are indebted to Mr. S. B. Gifford, superintendent of the Western Union Telegraph Company, Syracuse, N. Y., for the following "friendly criticism," as he terms it, of the telegraph press service as it existed throughout central and western New York in 1849. Each paper at that time paid the large sum of four dollars per week for its reports; for a while only two dollars; still they were not happy. The clipping is from a western New York paper, dated April 2, 1849. At that time these press reports monopolized the telegraph line daily for an hour for the evening and another hour for the morning editions. Telegraph offices usually closed for the night at the conservative hour of 8 o'clock.

"The charges of the telegraph company have become so onerous that we, together with the other papers in our city, have refused any longer to submit to them. Ever since the reports have come over the lines we have taken them, and paid out a large amount of money—and what have we received in return? Absolutely nothing, in comparison with the means expended. Now and then we would receive news worth the dollar paid, but as a general thing, with the exception of the markets, the operator in New York has sent us the most frippery things that can be well imagined, while at the same time the report has been so incorrect, especially where figures were concerned, that it was useless, if not dangerous to the interests of our business men, to publish it. The whole system is one of those infamous and grinding monopolies which no man can submit to, and we have determined to throw it by the board at once.

"When General Taylor's inaugural was sent over the lines, it was in such a rascally way that we supposed the wires were absolutely drunk, and we were obliged, out of respect to the President, to make sense of nearly every sentence, and when the speech came by mail, our compositors preferred to distribute the wire report, rather than be at the labor of correcting it—and so it has been with almost everything else that comes by this cormorant concern. We have borne the imposition and the impudence of this line until forbearance has ceased to be a virtue, and now we go the death against the whole concern. The Buffalo papers pay this line, we are credibly informed, but \$3 per week, enough, in all conscience, for the perfect trash received. We sent a respectful remonstrance against the extra price we were compelled to pay, and what was the reply? Was it gentlemanly? Was it courteous? Was it in the spirit of accommodation? By no means. We were told to take it or let it alone. Very well; we shall let it alone, but our readers need not fear that they will by it lose the latest reports from New York. The papers which we get by mail in the morning contain all that we receive by telegraph in the evening, so that we shall have precisely just what we get now.

"Our citizens are as much interested in this matter as we are, and we urge them to subscribe to the stock now being solicited for Bain's Tele-

graph. With that we shall have no silly mistakes. The rollers are so marked that it conveys an inky tinge to the impressions, which renders every letter perfectly intelligible, and an operator who learns the letters can never make a mistake, and a whole column of matter can be sent in less time than it takes this line to send a *stickful*. Speed and accuracy are the distinguishing features of Bain's plan, and more than all, the communications, full, correct and to be relied upon, are less than one-half the price charged upon the mean, incorrect, partial and one-sided miniature affair which has so long gulled the press and the public out of their money. We ask our readers to sustain us in the stand we have taken against these blood-suckers, and they will, since we take the pains and go to the expense of keeping our men up at night, that they may have precisely the same news they get now, only in a different shape, and we hope the whole western press will join us in breaking down this execrable power, which would grind our souls, if it can but coin money. Down with it, and up with Bain's line, that these Jew money-brokers may learn their places, and cease to rob us of our hard-earned gains."

Mr. Gifford has also lately forwarded to the Telegraphic Historical Society of North America a message blank of the Cornell line, bearing the date of October 12, 1849; also the printed annual report for the year 1851 of the New York, Albany and Buffalo Telegraph Company.

The latter document is indeed a unique statement, and conveys, in the figures presented, more impressive in their meaning than could be expressed by words, the exceedingly narrow limitations of the telegraph at that early period of its history. Extracts therefrom will be of interest to our readers. It appears there were but twenty-two offices constituting that telegraph system between New York and Buffalo, which were as follows, together with their receipts and disbursements for the year 1851:

	Receipts.	Disbursements.
New York.....	\$14,245.03	\$5,759.42
Carmel.....	80.66	338.35
Poughkeepsie.....	539.08	503.62
Red Hook.....	31.13	25.78
Hudson.....	736.35	507.17
Valatie.....	60.99	46.66
Troy.....	2,060.52	971.87
Albany.....	4,331.99	2,259.97
Schenectady.....	761.24	426.16
Amsterdam.....	92.81	113.15
Canajoharie.....	60.36	70.38
Rockton.....	408.60	338.34
Utica.....	1,400.86	984.20
Rome.....	642.31	323.46
Oneida.....	100.12	173.84
Syracuse.....	1,688.83	786.58
Auburn.....	877.43	498.13
Geneva.....	861.95	499.93
Canandaigua.....	721.16	354.13
Rochester.....	2,095.94	1,173.81
Batavia.....	632.34	356.17
Buffalo.....	2,876.52	2,006.96

In addition to the above, including cash on hand on January 1, 1851, of \$3,035.47, a sale of surplus iron wire for \$619.12 and a balance of account with other lines of \$114.09, the entire amount credited

to receipts is swollen to the sum of \$39,092.95. Yet among the general disbursements an item appears for *extraordinary expense for new posts* of \$8,486.66, so that the expense account is brought up to a figure exceeding that of the receipts. This is explained, however, by the remark that the money had been expended in a partial reconstruction of the line.

It further appears that these figures of a year's business are less than in the years immediately preceding, due, as President T. S. Faxton, of the company, states, to the fact that opposition had been encountered in the competing "Bain" and "House" lines, which, it seems, had made inroads into the "Morse Monopoly," as this line was called. With a complacency of official utterance quite in keeping with that of the present day, the matter is dismissed with the remark that old customers had gained nothing in patronizing the rival lines and were renewing "their business acquaintance with us, more than ever assured that ours is the line that it is their interest to patronize, and as a consequence we have now with us four-fifths of the press between New York and Buffalo."

A comparison is challenged "with any existing means or mode of transmitting intelligence in the United States," for it is cited that "during the year 1851 the offices at Buffalo, Rochester, Syracuse and Utica were in direct communication with New York 306 out of 313 working days, and with the offices at Albany and Troy 309 out of 313 working days." The construction at that time of the telegraph line had been so perfected that it was no longer necessary to relay Buffalo business destined for New York at such points as Albany, Troy, Utica or Syracuse.

The News Associations and the Inauguration.

Covering the ceremonies incidental to the inauguration of a President is usually considered a pretty big contract by newspaper men, but the work on March 4 was accomplished by The Associated Press without apparent effort.

Col. Charles A. Boynton, superintendent of the Southern Division at Washington, had charge of the work and it was accomplished without a hitch.

The Associated Press corps consisted of two desk men and ten men outside. One minute after the President took the oath of office the news was flashed over the wire to every corner of the globe.

As is usual in such cases, The Associated Press secured the inaugural addresses in advance and they were all in type in the newspaper offices using the service long before the news of the day was put on the wire.

The Publishers' Press and Scripps-McRea associations also made fine records in covering inauguration events. They too had sent out the usual advance copy containing addresses and general descriptions. Besides running an account of the parade and ceremonies, frequent bulletins were flashed on important events of the day, gathered by members of the staff distributed at various points. The work was under the direction of E. L. Keen, the efficient Washington manager of the associations.

THE TYPEWRITER IS INDISPENSABLE.

BY M. W. RUSSELL.

An axiom in the telegraph business is that the typewriter has come to stay. This does not mean that in every office it will stay with its owner, for the borrower, who does not say "By your leave" is ever in evidence wherever the machine is. True, this simple tribute to the person who uses a machine, but neither owns nor rents one, intimates the fact that a man is not always happy in this business, even with a valid and complete title to a typewriter. No; nor is it always the borrower only, for often it is the vandal whose presence is manifest.

But to typewriting telegraphers there are also other drawbacks, so it is claimed, which take precedence to these trifling annoyances. They rank, by want of a remedy against them, or in point of their importance, to the "man behind the mill."

To enumerate, there are no more "gilt-edge" telegraph operators, and there are no more "reputations" to be had. Whoever has been at a telegraph desk for the past quarter of a century can look back to the days when "Bob" Swiftyshift or "Tommy" Copperplate worked this or that circuit somewhere, but whose famed sending and elegant penmanship is no longer of repute among the craft. Nor have they had any successors to the laurels that they earned. Their names, and none others, in the long list of their peers, are mentioned no more where "shop talk" is most engaging. To-day the fraternity is quite barren of these telegraphic heroes, notwithstanding telegraphing is done faster and better than ever.

The machine and the "code," though, has made a difference. There is no more limit to what is expected of a man in command of these two advantages. He cannot work so fast now as to excite wonderment. He can no more enjoy a wide reputation because he cannot shine far. His searchlight has gone out. He labors under a mechanical eclipse. Besides, he cannot use a pen in the same old way, if ever he was expert with it; typewriting has concluded that issue, as between it and the pen. For it is a truth that constant use of the machine spoils one for "slinging" a pen copy with any envious art, such as used to be common to the telegraph profession. The typewriter is mightier than the pen; it is the simple rule of the "survival of the fittest," although it is a fact that some who use it now never did and never will do much with a pen. They never have used anything but a machine.

For example, a young aspirant for a position in a large commercial office was recently asked the usual question: "Do you use a typewriter?" He answered, innocently enough, "Yes; I couldn't copy a message with a pen." He got the job. Will the time come, by and by, when this question will be reversed, and a would-be employe be asked if he can write with a pen? That possibly is what the situation promises for the future.

There are experts, though, who say that punching continually at the "buttons" on keyboards has

done damage to their "sending" abilities. It has, they think, spoiled the character and elegance of their "Morse." Some others go even further and declare, whether in earnest or not, that they can tell the "make" and sort of a machine a man uses to receive on by his style of sending.

It is true that a man's "sending" is, or used to be, somewhat characteristic of his penmanship, as well as of much of his other individuality. Therefore, possibly, this "transfusion of blood" has been transferred to the typewriter. But whoever accepts this theory as settled in the affirmative must admit then that there are some pretty crotchety old "mills" in service nowadays. It is a semi-correct statement, however, that in these times but little sending is heard that is a "thing of beauty and a joy forever." It did not used to be so. What has really made the change? It is to be hoped it is neither the typewriter nor the "code" that has done it, any assertions to the contrary notwithstanding.

Perhaps, though, there is greater merit and less of the pessimistic in the more general claim of typist-telegraphers, that the telegraph employer ought to offer better inducements and higher reward, in consideration of these sacrifices of theirs, and for legitimate repairs, incidental to this improved method of receiving. Any way, the machine is no toy, and the manufacturers are not holding out irresistible inducements to telegraphers to buy. New machines are out of the reach, by reason of high prices, of the average telegrapher. If it were not for the second-hand dealers of good reputation for fair and square dealing, there would not be so many machines used in the telegraph business to-day.

Still, there is at least one consolation in this connection, and that is, a standard make of typewriter will last many years, and it is better to keep it in good order even at one's own expense, than to either be without it or permit its gradual conversion into junk by neglect or misuse. Nor is this all the good that can be said of the machine. It is also an educator in itself, and its use has elevated the profession in the sense that it has compelled many of its members to learn the proper use of capital letters, punctuation marks, paragraphs, etc., where before they were ignorant on these subjects and careless of their importance. They have been obliged to think out the rules of writing as they appear best when printed, and then to take pride in practicing them rightly.

Furthermore, a man is no longer humped over a tight little corner behind a glass partition, dividing the desk, with his nose yoked to his pen, while receiving, as it used to be; but he sits erect and looks and feels like a man. The sounder has by simple but ingenious devices been brought up into range with his ear.

Contemporaneous with these advancements, the other furnishings of an up-to-date operating room have been hastened by the demand and superiority of the typewriting system of receiving, until it is palatial compared with those before the advent of the machine.

These improvements, pertaining particularly to light, ventilation, convenience and cheerfulness, are quite as valuable to the employe as to the company, and as these conditions never existed before the typewriter came, their welcome presence now may be reckoned as a sequence to its adoption into telegraphy. These changes mean better health and longer life to the office worker. In fact, already the fraternal life insurance assessments show a lessening of the number of deaths by consumption.

Ay, with these blessings, and better ones, the time may yet come when the unheard of thing will happen—that of a telegrapher dying of old age!

Any way, it is to be hoped that this timely prestige of the typewriter, with the fairer prospects of longevity, will induce in members of the fraternity sober thoughtfulness of themselves for the future and of those dependent upon them, in preparation for the care of their later years. This effect, if vouchsafed, will be a crowning triumph of the typewriter in telegraphy.

Government Control of Telegraph Lines.

Mr. Thomas F. Clark, of New York, vice-president of the Western Union Telegraph Company, testified before the Industrial Commission at Washington, D. C., March 14, concerning the relations of the telegraph to the public. He devoted much of his time to the consideration of the wisdom of Government ownership of the telegraph. He expressed the opinion that those who advocate Government control base their advocacy upon the fact that the Governments of Great Britain, Belgium and Switzerland control the telegraph lines in those countries, but he argued that the conditions, geographic, social, administrative, are so entirely different as to render useless in this country deductions drawn from considerations in those countries.

He first compared the geographic areas, showing that where there are only 67 people in the United States to each mile of wire, there are in Great Britain 130 people to the mile, in Switzerland 220, and in Belgium 321. He said that in the United States there are 1,118,086 miles of wire, and 1,585,267 miles in all of Europe.

Mr. Clark mentioned the fact that the telegraph lines in the United States cover many sparsely settled sections, saying that while the returns from such sections are comparatively small, the cost of construction and maintenance is greater than in more densely populated sections. In Montana, for instance, with a population of only one person to the square mile of territory, there are two hundred and ninety-two telegraph and telephone stations.

All told, he said, there are 39,000 places in the United States reached by the telegraph companies, while in Great Britain there are only 10,816 places thus reached. In this country almost fifty per cent. of the post offices have telegraph connections, while in Great Britain only about one-quarter of them are thus equipped.

While admitting that rates on local messages in

Europe are lower than in the United States, Mr. Clark contended that on through messages they are incomparably higher. He pointed out that in Europe addresses and signatures are charged for. As a comparison in long-distance messages, he pointed out that an ordinary message covering ten words of text would cost about \$2.41 if sent from London to St. Petersburg, a distance of 1,774 miles, while a message sent from New York to Galveston, about the same distance, would cost only 75 cents.

The capitalization of the Western Union Company, Mr. Clark stated, amounts to \$703 per mile of poles, or \$141 per mile of wire. In Great Britain the capitalization was about twice as great.

Referring to the consolidation of the various original lines into the Western Union system, he said it had been necessary, in order to secure unification of rates and to facilitate through business. The result also had been a vast reduction in rates of transmission, the present maximum rates being in many cases not more than one-tenth of the rates in 1866. Now the rates are as reasonable, he said, as they could be made consistent with good business management.

He said it could not be expected that the owners of telegraph lines would sell at the mere cost of production. They, like the owners of any profitable property, had a right to expect something for good will, etc. He also argued that the cost of construction of a telegraph system is not confined to the lines throughout the rural districts, but is due largely to city conditions—the construction of buildings and underground conduits and the securing of other terminal facilities. He estimated that there had been spent upon the Western Union system since 1866 not less than \$50,000,000 or \$60,000,000, entirely outside of construction.

He quoted the Chancellor of the Exchequer of Great Britain as saying, in 1893, that there had been a loss to the Government of about \$22,000,000 on the telegraph system of that country, and stated that this deficit now amounts to about \$40,000,000. If there had been such a deficit there, what, Mr. Clark, asked could be expected in a country like the United States, twenty-five times as large?

Mr. Clark claimed that the Western Union rates were reasonable and the result of very careful study and adjustment. He thought any radical reduction would be followed by disaster to the stockholders and would result in no benefit to the public at large. There certainly would be a deficit, and in case of Government ownership the burden simply would be shifted from the stockholders to the people.

"Didn't you meet the rates of the Baltimore and Ohio telegraph line when it was in operation?" was asked.

"Yes," the witness replied, "and the Western Union stopped dividends, while the Baltimore and Ohio Co. became bankrupt."

Mr. Clark said that in carrying the Government business between the United States and Cuba, the International Company, which is under the control of the Western Union, and which carries

Government business free of charge, had carried more messages for the United States in one year than it had carried for Spain in thirty years.

Mr. Clark closed his statement with another reference to Government ownership, saying that unless there could be a permanent civil service public ownership would result in a serious deficit, and he believed that no good would be served in the end.

What Two Telegraphers Accomplished.

Without regard as to whether or not Ottawa was the first city to adopt electricity for the propulsion of street cars, it should be kept in mind that what constituted the great value of the work done by Ottawa in electric railway enterprise, related more particularly to the snow problem confronting the Canadian cities between Kingston in the west and Quebec in the east. Prior to 1890 it was generally considered an absurdly ridiculous proposition to attempt the operation of wheeled cars upon tracks in the streets of Quebec, Montreal or Ottawa, which cities experience greater winter storms and depth of snow than any other cities upon this continent. Looking back to 1890, when Messrs. Thomas Ahearn and W. Y. Soper (two well known expert telegraphers), courageously tackled the problem, it is now somewhat amusing to recall the sympathetic predictions made by all classes of citizens of the probable result of the undertaking, the conclusion being that it was impracticable and would surely result in financial ruin and disaster. Our neighbors in Montreal were particularly interested, and eagerly watched and awaited the result of the first winter's operations here. The managers of the Montreal Street Railway Company visited Ottawa during the progress of snow storms, and became au fait with the modus operandi of clearing and removing snow. The good example set Montreal by Ottawa was immediately acted upon, and the horse car entirely disappeared from the streets of that city during the following year. This debt of gratitude was gracefully acknowledged a few years ago in the Railway Committee of the House of Commons by the Hon. Mr. Brodeur, the present Speaker of the House of Commons, who stated that to the example and success achieved by Ahearn and Soper at Ottawa was due the fact that electric cars were adopted in Montreal. Mr. Brodeur spoke authoritatively, being for many years one of the solicitors for the Montreal Street Railway Co. Thus was a generally admitted physical impossibility overcome by Ottawa enterprise and talent.—Ottawa Evening Journal.

The annual proceedings of the Gold and Stock Life Insurance Association, of New York, have been published in pamphlet form and is being distributed among the members, of whom a full list is printed. The various reports are presented and the constitution is given in full.

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

What Marconi Says.

Signor Marconi, who is now in New York, makes the following statement as to the purport of his visit to this country:

"I am here purely on a business trip, and, as I have a great deal of work before me, and as my stay is limited, my time will be fully occupied.

"One of my chief objects in coming here is to establish and equip stations for the adoption of my system of wireless telegraphy, so that incoming and outgoing ships can be communicated with from great distances, and in the event of distress. Just where these stations are to be located I cannot say until I have consulted the charts.

"The expense for establishing these stations will be borne by my company—the Marconi International Marine Communication Company (Ltd.)—which was formed about a year ago in Brussels. The company is capitalized at £350,000.

"Then there is the Marconi Wireless Telegraph Company, in which I own stock to the amount of \$300,000. I do not intend to lose control of my invention. This latter company owns nearly all of the stock of the first company.

"As soon as stations have been erected here merchant and naval vessels can be equipped with the necessary appliances for communicating with each other or the shore. These equipments can be completed at the rate of one vessel a day.

"Among the wireless telegraph stations already established on the other side are those at Portsmouth, St. Catherine, Isle of Wight; Haven Pool, Dorset; Portland and Portsmouth, the last two by the Royal Navy; Start Point, near Plymouth; the Lizard, Holyhead, Wintersea, North Foreland, and three on the Irish coast and one in Scotland.

"Thus far the system of wireless communication is in use on forty British naval vessels, while fifty more will be equipped shortly; twenty-five Italian, three German and five Belgian. Very few merchant vessels have as yet adopted the system. I hope to equip many merchant vessels of all nationalities as soon as we get fairly started here, and also some ships of the American Navy.

"There has been considerable correspondence between the United States Government and myself, and also some negotiations.

"Does the electric wave by my system pass over land and water or through them? I do not know. It is as yet a mystery.

"I made my first experiment in 1896 and the first public test in 1897, but I know only a little about it as yet. Four years hence I hope to know more—much more. This I know, that my system is my own. Others may have their systems, but if others encroach on my system there will be litigation.

"Improvements are continually being made. When I began my experiments I had to elevate my instruments twenty feet to send a message one mile. Now I can send a message two hundred miles with an elevation of one hundred feet. I hope before long to reduce this so that a message can be sent or received two hundred miles from a ten-foot elevation.

"There is no difficulty in transmitting messages

between ships, or the shore and ships, even though they are located in clusters, for fear of crossing currents or receiving each other's messages. Any two points can communicate when the instruments intended to be used are attuned to the same key. By my system messages from five different vessels or points can be received simultaneously at one point. Neither does it make any difference whether the earth space between points of communication are plain soil, rocky, or have a mineral formation."

Telegraph Wires as Weather Prophets.

According to Dr. Eydam, a German physician, there are no more reliable weather prophets than telegraph wires. This novel discovery was made by him in the following manner: As he was waiting for a train at a country station he heard a shrill sound, which was made by the wind as it passed through a network of nearby wires. At once the doctor remembered that he had frequently heard a similar sound either immediately before or after a storm or a heavy fall of rain or snow, and it naturally occurred to him to try and ascertain whether there was any connection between the sound and such changes in the weather.

As a heavy shower of rain fell within forty-eight hours after he had heard the sound at the railroad station, he concluded that there was such a connection, and he then determined to investigate the matter thoroughly. As a result he now maintains, first, that any unusual disturbance in the telegraph wires is an infallible indicator of bad weather, and, second, that the nature of the changes in the atmosphere may be learned from the sound which the wind makes when passing through the wires.

Thus, a deep sound, he says, which is of considerable or medium strength, indicates that there will be slight showers of rain, with moderate winds, within from thirty to forty-eight hours, and, on the other hand, a sharp, shrill sound is the sure token of a heavy storm, which will be accompanied by much rain or snow.

Heliograph Love Messages.

A series of heliograph messages flashed between Miss Anna Gardner, a resident of Dartmouth, Mass., recently visiting at Bradford, N. Y., and her fiancé, who is an operator in a railroad signal tower a few miles distant, has caused considerable consternation among the residents of Bradford township. For some time past, when the weather was bright, a strange light has been observed flickering in the sky. Many looked upon it as an omen that the end of the world was near. Revival meetings resulted and persons gathered about the village in awe-stricken groups to watch the supposed supernatural phenomenon. Then, when the people were pretty well worked up over it, it was found that they had simply been watching heliograph love messages between Miss Gardner and her fiancé, who had instructed her in a system of signals.

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

CABLE LAYING IN WAR TIMES.

BY LIEUT. R. SCALLAN, R. A.

An invention has lately been submitted to the British naval authorities which, if accepted, will undoubtedly prove an important factor in future naval warfare. The designers are Lieutenant Crutchley, of the Royal Naval Reserve, and Mr. Snell, a prominent engineer, who have devised an improved method of laying submarine cables at a much increased rate of speed. By means of this invention a warship or transatlantic liner can be used to lay a cable of special design at the rate of twenty or more knots per hour. As will be seen, it requires very little alteration to adapt these vessels to the purpose, and the slow-going special cable boats at present in use will be superseded.

One can easily realize how important it might be to a maritime nation, especially one with vast colonial possessions, or which relies for protection on a powerful fleet, to be able to lay a comparatively short cable, of from 500 to 1,000 miles, in a very short space of time, and withal so secretly and unostentatiously that the enemy would never suspect, until too late, that such communication had been established. Of course, one of the very first results of a declaration of war nowadays would be an attempt on both sides to destroy or interrupt any means of communication, more particularly telegraphic communication, that might prove useful to the enemy.

Messrs. Snell and Crutchley step in to the rescue with a magnificent scheme, which would seem to lay at rest the vexed question of the transmission of orders, even if the enemy has succeeded in cutting existing cables.

The differences between the present and the new system of laying submarine cables are many and varied. To start with, the new cable is much lighter and less expensive than the ponderous affair used for spanning the Atlantic. Three hundred knots weigh only 180 tons, while the price averages only \$300 per knot. Coiled on a large drum, these 300 knots, ready for use, can be stowed away in a tank or hold about the size of a large double boiler, so that a good-sized ship, such as a cruiser or a liner, could easily find room for two such drums, one in the aft and the other in the fore hold. Here would be 700 miles of cable, weighing but 360 tons, stowed away ready for immediate use. Another plan is to carry the cable on small drums holding but 40 knots each and joined together; these drums possess the merit of being light and portable and also easily put away.

The paying out of the cable is accomplished very simply and ingeniously, engines of 150 horse power being utilized to revolve the large carrying drums and giving a delivery speed of over twenty knots per hour. Now, it is necessary, in laying a cable, that a certain amount of slack should be available, so that the cable can accommodate itself to the frequent inequalities of the ocean bed, and not become tightly stretched from one prominence to another, thus throwing an excessive strain on the paying-out machinery. Accordingly, for a length of 300 knots, a hight or slack of 2,000 feet is al-

lowed, and is carried on a pair of drums which are stationed midway between the stern and the main drum. The cable passes from these bobbins to a revolving pulley at the ship's stern, which literally ejects the wire at a speed which can, if necessary, be made greater than the rate of delivery from the tank. A controlling apparatus is attached to the slack-carrying drums to prevent the using up of the hight too suddenly, until the strain becomes sufficient to overcome this resistance. Before the 2,000 feet have been absorbed in this way it is evident that the ship's speed can be diminished a little, so that the excess rate of delivery will soon again accumulate sufficient slack.

The results attained by this system in actual work are said to be marvelous; of course, there is nothing out of the way in the entire design, but usually these wonderfully simple ideas, though brilliant in theory, seem to collapse when put to a thorough test in practice. The Snell-Crutchley invention, however, does not appear to belong to this class, and the inventors have demonstrated satisfactorily that a ship able to make 20 knots can easily pay out 21 knots of cable, the extra knot being compensation for the uneven floor of Neptune's home.

A simple calculation shows that communication can be established by these means between points 700 miles distant, within less than forty hours, and the cable once laid would be permanent, at least as cables go. The secrecy of the stratagem also would insure its success, for, as before said, a cruiser or other fast vessel can be quickly fitted for the work at very short notice. Nothing unusual is visible to a passing ship, save perhaps what would look like a taut rope trailing astern, and even that could be concealed without difficulty. And, to crown all, the work can be as well done at night as in the daytime, requiring, as it does, little or no supervision.

Loan Associations Consolidate.

The Serial Building Loan and Savings Institution and the Electric Building Loan Association are about to be united under a single management. The combined associations will have headquarters in the offices now occupied by the Serial Building, Loan and Savings Institution, located at 195 Broadway, New York. The preliminary steps have been agreed upon by the boards of management of both associations, and the details are now being worked out by committees from both boards. When this is done it will be necessary to have the act or matter ratified by the members of the Electric Building Loan Association. The consolidation will greatly strengthen the two associations.

The Scientific American of March 23, contains a descriptive illustrated write-up of the Burry Page-Printing Telegraph system. This is the invention of Mr. John Burry, electrician of the Stock Quotation Telegraph Company, of New York, which has given great satisfaction in financial circles in disseminating Wall street gossip.

LETTERS FROM OUR AGENTS.

To Our Correspondents.

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

Southern Pacific Telegraph System—Sacramento Div.

The Sacramento Division is to the Southern Pacific what the San Joaquin is, the great connecting link uniting the East and North to the terminus—the Western Division. Starting at Sacramento and extending eastward until it strikes the Salt Lake Division, or "Ogden Route," at Wadsworth, Nevada, some 200 miles and northward from Sacramento to Dunsmuir, where it strikes the Oregon Division, or the "Shasta Route," over 200 miles distant, it passes through the most picturesque and wild country in the far west. This division can truly be called the division of snow sheds and precipices. The snow often attains a depth of thirty feet over the Sierra Nevadas, necessitating some forty miles of snow sheds between Reno and Sacramento. The elevation of Summit, the highest point, is about 7,000 feet, and immense "helper" engines are used to assist the trains over the heavy grades. Many points of interest lie on this division, notably, Cape Horn, Donner, Tahoe Lakes, Sacramento, the State Capitol, etc. There are upwards of seven hundred miles of track on this division, and the great number of trains, and the mountainous country through which it runs, calls for many night telegraph offices, probably more than any other division on the road.

The head of the telegraph department of this division is Mr. H. B. Breckenfeld, chief dispatcher, Sacramento, who has been with the company over thirty years.

The several sections of this division are operated as follows:

Mountain District: F. A. Edinger, first trick;

J. W. Fitzgerald, second trick; Louis Geiger, third trick. Valley District: G. L. Duden, first trick; J. S. Quire, second trick; J. H. Whited, third trick. Oregon District: George Nevins, first trick; H. Carpenter, second trick; J. J. Blaney, third trick. Colfax District: Wm. E. Norris, first trick; C. B. Patrick, second trick; Frank E. Jones, third trick.

Copyists are: James McClintock, J. M. Botts and Chas. J. King.

Mr. W. R. Birt is in charge of the multiplex instruments, and Thomas C. Buckley is the operator in the machine shops.

Operators in the freight office are: Wm. Cohn, Fred. R. Glover and Edw. L. Sharp.

A number of the force are old commercial operators, among whom are Messrs. Whited, Cohn, Birt and others. The telegraphers on the division comprise the following:

Penryn—A. G. Love, C. T. Jones; New England Mills—Mary V. Mitchell; Blue Canon—L. Fingland; Dutch Flat—Edward Duffey; Gold Run—A. N. Davison, H. Lucas; Cascade—A. R. Merrithew, W. H. Richards; Summit—J. N. Dockham; Truckee—J. H. Atkins, days, J. B. Cantwell, nights, W. J. Roberts, R. A. Jones and Clark Tilton, assistants; Boca—W. Hebard; Floriston—Geo. E. Wapple, W. H. Thomas; Verdi—E. L. King, days, G. L. Cleveland, nights, J. H. Jacobs; Wheatland—J. E. Blackford; Coburn Junction—Chas. A. Nelson; Blacks—M. C. Gorton; Biggs—J. A. Foster, T. F. Ruff; Woodland—Ira A. Morris, Chas. A. Sebring; Costella—H. O. Wickes; Willows—W. W. Scott, H. H. Houston; Kiswick—D. B. Born, agent; O. T. Stackpole, cashier; Dom. Ogara, first trick; T. C. Morebeck, Jr., second trick; Folsom—J. Kinney, M. J. Ferry.

Lack of space prevents a more complete list in the present issue.

EBENSBURG, PA., NOTES.

Mr. Kelley, the genial agent for the Pennsylvania Railroad Company, has just returned from a pleasure trip through Florida.

Miss Julia L. Brown is the very obliging manager of the Western Union.

The Bell Telephone Company is represented by Miss Mary Evans, day, and Miss May Brown, night, operators.

Mr. A. G. Young looks after the interests of the Long Distance Telephone Company.

Mr. C. F. Holcombe acts as manager and line-man for the Postal.

CLEVELAND, O., WESTERN UNION.

Indications point to a removal of the operating room to the floor below the present quarters. This change is made necessary by the demand for more space.

Arrivals: E. L. Bloomburg, from Boston; O. T. Donnelly, from Detroit.

Departures: A. C. Bennett, to Western Union, St. Louis, Mo.; C. R. Zink, to Pittsburg; Howard Coe, to the Long Distance Telephone Company, Cleveland, O.; M. Casper, to Chicago; D. F. Baker, to a broker's office; Messrs. Brenton, to Wellsville, O., and Fauch, to Conneaut, O.

NEW ORLEANS, LA., WESTERN UNION.

During the absence of his father, who is quite ill, Robert Mobley is acting manager at the Western Union stock landing branch.

Mr. P. A. Moake is now a pool-room operator, having accepted a position with the Royal pool-room.

The many friends of Mr. Garrett Winter, late manager of the Postal at New Iberia, La., and one of the oldest telegraphers in this section, will be sorry to hear that owing to illness he has been obliged (it is hoped only temporarily) to relinquish the key. Mr. Winter passed through New Orleans en route to his home, stopping over here for a few days.

Among the Western Union managers along the Southern Pacific road, there are few more popular than Messrs. Fountain, of New Iberia, and Sims, of Crowley.

There is considerable baseball talk on the part of night and day forces.

The sympathy of this office is extended to Mr. John A. Galbreath, whose son, Frank A., aged 34, died on March 16.

The personnel of the Cotton Exchange branch office is as follows:

P. Leloup, manager; E. A. Freidmann, on New York commercial news department. Operators: W. J. Johnston, U. Mauberret, W. K. Wimberly, G. F. Lonnegan, P. A. Moake, J. A. Galbreath, Jr., H. A. Beil, F. G. Carbajal, R. A. Arrington, C. R. Weidemann, E. A. Dennett, Mr. Nichols, O. C. Johnston, S. J. Garland, Mr. Jones, Robert Maloney, R. Adorno, W. A. Pollard, T. H. Chancellor.

PHILADELPHIA, PA., WESTERN UNION.
It is with feeling of deep regret and sincere sorrow that we recently learned of the death of young Mr. Lewis, son of C. M. Lewis, superintendent of the Philadelphia, Reading and Pottsville Telegraph Company. Mr. Lewis was about budding into manhood, and his death was a severe blow to his esteemed father, to whom we extend our sympathy in his irreparable loss.

Miss Maggie Penn, who was with us for about a year, resigning on account of ill health, died recently at her home in Chester, Pa.

Mr. P. A. Weadon has resigned to accept a position with The Associated Press.

Mr. B. M. Roscoe has also gone with The Associated Press, at Titusville, Pa.

Mr. C. W. Kaiser resigned to go with a broker.

Arrivals: Messrs. L. Smearer, D. C. McBride and R. P. Stoddard.

KANSAS CITY, MO., WESTERN UNION.

Our overland facilities having been increased to such an extent it was found necessary to install an additional chief to look after quads, loops and repeaters at night, Mr. A. R. Pippitt has been appointed to fill the position.

Mr. Clarence Higgins, son of our night way chief, M. S. Higgins, is suffering from a broken arm as a result of football playing.

Mr. C. J. Killick is now at the head of the check forces, vice John J. Shelley, who is still very weak from the effects of pneumonia, with which he was

stricken some three months ago, and is only just beginning to venture out a little.

Mr. B. O. Biddle reports the birth of a daughter on March 12; likewise Mr. W. M. Hannon, a daughter, March 15.

Messrs. J. H. Giles, J. T. Heydon, L. M. Dunlap, H. L. Bleakney, Miss Jessie Noyes and Mrs. Watson are all at work again after a siege of sickness.

With the return of spring and increasing business, new faces are appearing among us, the latest arrivals being: Messrs. U. S. Alvord, E. E. Payton, J. R. Levy, C. J. Fallon, S. E. Sheets, T. C. Carter, C. C. Meigs, F. R. McNames, W. W. Gwin and N. P. Jamison. We miss those of Messrs. J. L. Fitzgerald, I. L. Printz, Archie Rainey and L. M. Slater, they having departed for new fields of labor.

CINCINNATI, O., POSTAL.

Spring seems to have made its appearance at last, and every one is happy. The boys have brought out their linen dusters, and the girls will soon be wearing their white aprons.

Mr. O. F. Klinke is off on a three weeks' vacation at Frankfort, Ind.

Mr. John Garner, who has been ill since December 6, returned to work last week.

Mr. J. E. Neville takes the position of night chief April 1, vice C. F. Printz, who will be traffic chief, days.

Mr. J. Carroll has gone to New York.

Mr. E. J. Nally, general superintendent of the Western Division, Chicago, Ill., was a recent visitor.

BOSTON, MASS., WESTERN UNION.

Business, which has been rather dull for the past three months, is now gradually increasing.

The prospects are that the summer season will be one of the busiest for some years in this district. With yacht races, trotting matches, bicycle and motor races, besides dual baseball outfits in the National and American Leagues playing in this city, there seems to be no good reason why business should not correspondingly boom.

Mr. H. J. Waters has been detailed to Middlebury, Vt., where the services of an extra operator are called for owing to the great quantity of press matter.

Arrivals, City Line Department—Miss Hennessey, formerly manager at Pawtucket, R. I.

WASHINGTON, D. C., WESTERN UNION.

Business continues good since the inauguration, all extra men are making good time.

The many friends of Night Manager W. H. Young, sympathize with him over the death of his wife, which occurred recently.

Mrs. R. W. Bender has been quite sick, but is, we are glad to note, recovering rapidly.

Mr. W. W. Beattie, one of the oldest men in this office, went to lunch about a month ago, and so far has not returned. His whereabouts is a mystery.

Messrs. James Hope and Frank Saffell have returned to Washington after having been in Richmond, Va., helping out for about eight months.

Mr. Charles Sargent, one of Richmond's finest operators, recently paid us a visit.

CHICAGO, ILL., WESTERN UNION.

Leroy W. Dunning, aged 18, only son of George E. Dunning, assistant chief operator, died March 15 of appendicitis. The funeral was held on Sunday, the 17th, and was largely attended. A quartette of singers from this office, consisting of Mrs. Hammond, the Misses Minor and Mr. Harry O. Leaville, rendered some fine music. Mr. and Mrs. Dunning have the heartfelt sympathy of all.

David M. Hickey died at his home in Dubuque, Iowa, January 13. Mr. Hickey was well known in the East and South, and will be mourned by his many friends. He was last employed by the Postal Telegraph-Cable Company at New York.

Mr. Barney White, we are glad to learn, is steadily improving, and a speedy recovery from his illness is now expected.

Col. Soule, who has been on sick leave, is again at his post.

Mr. Ged Seward is on the sick list.

Judge Cullis has been serving on the grand jury for the past two weeks. Mr. Cullis' knowledge as a lawyer, and his conscientious mind, should make him an excellent juror.

Mr. G. R. Benjamin, the Buckingham system expert, has been transferred to New York, and Arthur Trunkel fills the vacancy, while Mr. Spickler takes Mr. Trunkel's place.

The storm of March 9 was the most disastrous in years, especially north of this point. Many of the railroads lost several miles of telegraph poles. With the stupendous efforts of those concerned, things are assuming the normal shape.

Miss Mamie Dickinson returned from the Long Distance Telephone Co. recently, and was welcomed by her many friends.

Mr. T. C. Brandon returned recently from Mexico, where he has been recuperating for some months. Mr. Brandon has taken on considerable flesh and is much improved in health.

Mr. L. M. Malcher has returned from Mexico, where he has been working with his brother in the coffee business.

Mr. A. J. Paine, manager at Goshen, Ind., was a recent visitor here.

Messrs. E. F. Lavery, R. C. Elder, P. J. Cummings, C. E. McCauley, J. P. Milott, F. H. Culver and J. T. Hickey were detailed to Milwaukee to assist during the recent wire prostrations, due to the storm. All of these gentlemen are first-class operators.

James C. DeLong, of the Western Union Tribune force, is absent on account of illness.

ST. LOUIS, MO., WESTERN UNION.

Miss Mamie McLaughlin left for Hot Springs, Ark., March 11, where she seeks relief from rheumatism.

Mr. Thomas Phelan has the profound sympathy of his many friends, as was evidenced by a very handsome tribute, in the death of his brother James, who died March 9, of a complication of diseases.

Mr. Raymond Alger returned from Springfield, Mo., March 13, after an absence of two weeks.

Mr. Charles Cummings, Jr., of the Commercial

News Department, was compelled to leave for the Southwest for his health. He was accompanied by his mother. They will very likely make Phoenix, Ariz., their stopping place.

Mr. Percy Wark, one of our bright young branch office operators, has been transferred to the main office waiting list.

Mr. Claire Hull, who was very sick with pneumonia, is somewhat better, but will in all probability spend a few weeks more in bed.

A very enjoyable event was the masked ball March 15, given in honor of Duncy Bagot. Col. Frank Gorosky made an excellent Chinaman—a "boxer"—and carried off all honors. Mr. Bagot, who has an excellent voice, favored the assemblage with several of the latest songs. Among those present were: The Misses Rubey, E. Osterman, Mamie Lacher, Belle Sinclair, Ida Ernesthauser, Viola Hart and Mattie Score; also the Messrs. Duncy Bagot, M. W. Van Dam, H. V. Crain, M. D. Crain, Jr., H. Gosting, F. G. Gorosky, Joseph Gruenfelder, J. B. Holle, J. Schmitt, R. W. Shore, W. F. Irvine, W. K. Kairn, J. Strong, Joseph Barry, J. J. McCrudden, P. J. Hogan, M. F. Conerty, T. Grady, T. Mullally and W. Score.

PHILADELPHIA, PA., POSTAL.

Chief Operator Mr. C. A. Stimpson, accompanied by Mr. Joseph Eder, is in Baltimore attending to the work of removing the main office. The task is a great one, but these gentlemen are equal to it and expect to have everything in readiness before April 1. Quad Chief Mr. Charles Dreher was also sent for, and furnished several days' valuable service.

The telegraph department of The North American, in their new 22-story building (the highest in the city), is in full keeping with the progressive spirit of this paper. Four quartette tables, two furnished by each telegraph company, have been fitted up, giving a seating capacity for sixteen men.

Mr. Samuel Lewallen, one of our promising young operators, has been working at The Ledger office to help out on the overflow.

Resignations: William Madden and Robert Stoddard.

How's This?

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

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

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

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

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

Hall's Family Pills are the best.

New arrivals: H. P. Ruffee, from Boston, and Mr. Firman, returned.

Mr. William Wisegarver has been transferred to the night force.

Owing to serious trouble with his eyes, Mr. Thomas Poppert has been compelled to remain at his home for treatment.

We are pleased to note the return of Miss M. V. Hagan.

Miss Emma Closson has resigned her place at the Ninth street and Girard avenue branch office to accept a more desirable position with a broker.

Mr. Christian Troeller, from the Harrison Building office, takes up a position for the season in Atlantic City, N. J.

Mr. Les. Damuth, formerly connected with the night force, has his cards out announcing his location, expecting to build up a good practice in dentistry.

Mr. Edward Brylawski, well known in this office, has charge of a broker's branch house at Atlantic City, N. J.

A merited promotion was given to Mr. M. Auerbach, who served his "apprenticeship" with Frank Scott at the North Front street office. Mr. Auerbach was installed as an operator at the branch office, corner of Third and Walnut streets, under Mr. Taylor.

Outside of the Old Timers' meetings, scarcely anything is ever heard from old "Jack" Wintrup. He is still very much in evidence and always has a cheery greeting for all callers. His office—the telegraph department of the International Navigation Company—is a busy spot, keeping several operators on the move. Commercial pursuits still hold many attractions for Mr. Wintrup.

NEW YORK, POSTAL.

For several months the service department has been making corrections direct with the city branches by means of a "short" wire running from that department to the city switch, which was connected with any branch wire the service operator asked for. The old way of sending service messages to various branch tables occasioned serious delay. The new system was found to work so well in the quick servicing of messages that a hundred-wire switch has been placed in the service department, connecting with most all of the city branches, and enabling the service operator to cut in on any wire necessary, thus still further cutting down the delay. Corrections can now be made in less than two minutes' time.

Manager James P. McBurney, of the branch office at 853 Broadway, has returned from Mechanicsville, N. Y., where he went to bury his mother.

Mr. A. G. Sullivan chief operator of the 853 Broadway office, is back again after a vacation of two months.

Mr. Thos. J. Donovan, manager of the Washington Market district, was presented March 5 with a daughter.

Mr. E. W. Clowes, of the night force, has resigned to accept a position with a broker in Chicago.

Mr. W. C. Wooten, of the Philadelphia night

bonus wire, has left to engage in business in Denver, Col.

Mr. Frank Murray has accepted a position with Counselman & Day as broker operator at their Waldorf-Astoria branch.

Mr. Glen Newman, quad chief on South and West, and Miss Minnie Baxter, formerly of the city department, but more recently with a broker, were married March 14 in Brooklyn.

Mr. G. W. Ribble, manager of the Washington, D. C., office, paid this office a visit lately, spending several hours inspecting its equipment.

Mrs. Dollie Neill Murray, wife of E. F. Murray, of this office, for a number of years statement clerk at the 112 Front street branch, and for eight years chief clerk of the bookkeeping department at 253 Broadway, died at her home in Brooklyn, March 14. Death was the result of an accident sustained on the Brooklyn Bridge several years ago, from which she never recovered, and which caused cancer. About a year ago, an operation was performed, and the cancer removed, but the poison had permeated her system, and after suffering a year the end came very peacefully.

NEW YORK, WESTERN UNION.

The sympathy of the force is extended to Mr. James C. Robinson, our night manager, who recently buried his mother; also to Mr. William Shone, who was called to Philadelphia to attend the funeral of his mother.

Mr. Wm. Wall's youngest son died March 17.

Mr. Thomas J. McCann, formerly of this office, died March 14, at Pueblo, Col.

Maritime Exchange Branch: This office is one of the oldest branch offices downtown, Manager Holland having been in charge for upwards of thirty years. The business, which is principally maritime, is quite heavy, but is very ably handled by Mr. Holland and his efficient corps. The roster is as follows: H. Holland, manager; H. Reissman, the former night manager, Manhattan Hotel, and Thomas F. Kennedy, who has just recovered from a five months' illness, operators; F. J. Harden, clerk.

New York Cotton Exchange Branch: Business continues very good, notwithstanding the fact that the cotton season is virtually over. Mr. Edward Fraser is back again, having been absent for nine weeks on account of a broken leg.

Departures: Mr. Geo. H. Mooney, of the extra list, to go with a brokerage firm at Lakewood, N. J.; Mr. A. Lang has been transferred from extra to the regular list.

Any fifty-cent piece of music mailed eighteen cents. Rusticana, Anchored, Calvary, Palms, Flower Song, ten cents each. Anything at less than half publisher's price. I will sell you a good piano for one dollar per week, from \$35 up. B. L. Brannan, 195 Broadway, New York. (Adv.)

Don't give to an agent; send for us. Repairs on typewriters expressed or sent in to shop at reduction, to operators. Second-hand machines low price. Supplies, word-counters, etc., cheap. Parts and attachments made. Wall & Butler, Typewriter Repairs, 57 Dey Street, New York. (Adv.)

Miscellaneous Items.

Mr. E. O. Warren, manager of the Western Union Telegraph office at Parkersburg, W. Va., has resigned to go to California.

Mr. John B. Biggins, of the Postal Telegraph-Cable Co., Chicago, Ill., has returned from his wedding trip to New Orleans and other southern cities.

The Western Union Telegraph Company will in the near future install dynamometer plants in its offices at Duluth, Minn.; San Francisco, Cal.; Detroit, Mich.; Houston, Tex., and Cleveland, O.

The general offices of the Knickerbocker Telephone and Telegraph Company, of which William Stanley Eckert is the general manager, have been removed from 416-422 Broome street to 100 Broadway, New York.

Mr. Grant M. Peoples, of Memphis, Tenn., in renewing his subscription lately, writes: "I find TELEGRAPH AGE very interesting, and it enables me to keep track of a great many of my old friends whom I have lost sight of since being out of the profession."

Mr. A. L. Suesman, the former western general manager at Chicago, Ill., of the old United Press, has formed a business connection with Sam. W. Hoke, the well-known long-distance bill poster, of 255 Fifth avenue, New York. The term "long-distance" derives its name from the fact that it bears the same relation to bill poster advertising as newspaper advertising agents do to newspapers, and he posts his matter all over the United States.

Canadian Telegraphs.

The beginning of the Canadian telegraph system was made 54 years ago, when a line was established between Quebec and Toronto. The mileage of Canadian telegraphs to-day is something over 35,057 miles, 18,286 miles of this being controlled by the Great Northwestern Telegraph Company, 8,886 by the Canadian Pacific Railway Company, 4,973 by the Dominion Government, and 2,912 by the Western Union Telegraph Company. It is calculated that this represents some 86,000 miles of wire and more than 2,700 offices. With the exception of the Yukon telegraphs and the extension on the north shore of the St. Lawrence, toward Belle Isle, the lines included in the Canadian Government telegraph service were almost all established and equipped between the year 1880 and 1882. Three years ago contracts were given for the supply of poles and for construction of the land line to connect with the proposed cable to Belle Isle, off the Labrador coast. But for the loss of the Government cable steamer, last fall, this cable would have been laid. When completed, it will practically reduce navigation between Canada and Europe to three days, the oceanic distance being reckoned from land to land where passengers can be placed in communication with the world. This will be effected when steamships can receive and send telegraphic messages at Belle Isle.

The New York Telegraphers' Aid Society.

The annual meeting of the New York Telegraphers' Aid Society was held March 27, at 195 Broadway. Amendments to the constitution and to the by-laws were adopted. The financial report for the year ending March 6, shows receipts of \$7,615.59 and disbursements of \$6,398.83, leaving a balance of \$1,216.76, which, together with that on hand last year, shows a total cash balance of \$13,470.03. The report of the Relief Fund for the year, as above, shows receipts of \$682.35, against disbursements of \$338, a net gain of \$344.35, which, added to the cash on hand a year ago, leaves a balance in the treasury of \$4,641.47.

At the election of officers the following were chosen: H. W. Saur, president; E. E. Brannin, vice-president; William J. Quinn, secretary; Thomas M. Brennan, treasurer; John H. Driscoll, H. C. Fardon, John Brant, auditing committee; and an executive committee of eleven, made up as follows: Misses S. Dougherty, M. E. Jermain, M. T. Kennedy, and Messrs. A. J. Gillman, J. McParlan, E. T. Dempsey, R. C. McDonald, J. Gschwind, George Leveene, W. W. Price and M. F. Gaffney.

Answers to Correspondents.

Editor TELEGRAPH AGE:

Will some one please explain why a carbon-zinc and a zinc-copper battery cannot be connected in circuit together. H.

Rich Valley, Minn., March 18, 1901.

[We see no reason why a series combination battery composed of zinc-copper and zinc-carbon, respectively, will not work OK on any circuit suitable for a zinc-carbon battery—in other words, for "open circuit" work. But where constant currents must be drawn from the battery—that is to say, on "closed circuits," the combination is not satisfactory for the reason that carbon-zinc batteries polarize quickly and become almost useless after a few minutes steady operation. The counter E. M. F. developed within the carbon cell acts against that in the zinc-copper cell, and thereby weakens the full battery to the extent of the counter force developed in each carbon-zinc jar in the row.—EDITOR.]

In Dire Peril in Alaska.

The first details of the hardship and suffering endured by two corps of soldiers and engineers who attempted to construct the telegraph line, as already mentioned in these columns, between Dawson City and St. Michael have been received. A miscalculation was made, and the two corps, working from opposite ends of the line, missed each other by seventy miles. It appears that it was necessary to send a relay expedition drawn by reindeer to rescue the constructing party from death.

Mr. Tesla's agent has left London for Lisbon to establish a receiving station on the Portuguese coast at the fortieth parallel of latitude, which will be in communication with a Tesla transmitter located on the New Jersey coast.

The Gridiron Club, of Washington, D. C., is one of the most popular clubs of the Capital City, and embraces in its membership a large number who are prominent in public and civil life. Mr. P. V. De Graw, now of Philadelphia, Pa., a well-known former telegrapher, and for many years general southern manager of The United Press at Washington, was one of the founders of this famous organization, and it was on the offering of his motion that the club was formed. This was in 1885. For eight years, from 1890 to 1898, Mr. De Graw served as its secretary, and on his retirement was presented with a handsome silver loving cup.

A NEW SOUTH AMERICAN CABLE ROUTE.—Advertising again to South American cable connections, a subject touched upon in the March 16 issue, it is well to note that the Commercial Cable Company has also established a new route to Brazil and to all points on the Atlantic coast of South America. This is maintained over its new cable to the Azores, thence to Lisbon, Portugal, to Madeira and to Pernambuco.

THE ENGLISH PACIFIC CABLE.—The Canadian House of Commons has passed a bill providing for Canada's share of the cost of the new Pacific cable. Canada will pay 5-18 of the total cost, which will be £2,000,000.

The New York State Senate has reported favorably on a bill to prevent employees in telegraph and telephone companies from aiding criminals in violating the law regarding the delivery and transmission of messages.

Business Notice.

The Smith Premier Typewriter Co., of Syracuse, N. Y., is sending out a large half-tone, a reproduction from the official photograph of the National Commercial Teachers' Federation at the Detroit meeting, showing an extensive group of over two hundred well-known educators. The faces and figures are remarkably distinct, and the picture is an excellent example of present day possibilities in engraving and printing.

Telegraph Odds and Ends.

The following office message was received: "Yours date Smith sined Smith is 370 & out of town." The relay office insisted it was "copy" and would not change it.

A customer recently informed a manager that the messenger who responded to his district messenger call was a very warm messenger and must have been raised on a hot wire.

Two telegraph operators will accompany the President on his private train during his coming transcontinental trip.

Amos L. Bougher, of Philadelphia, has secured the agency for the celebrated "Alexander" word counter for Philadelphia and vicinity; price, \$3. It needs no recommendation. You simply press the button and it counts. Address orders to him, care Western Union Main Office, Philadelphia, Pa.—(Adv.)

Readers of the TELEGRAPH AGE are referred to the advertisement of the Montauk Cable Company on page two of the front cover.—(Adv.)



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| Lehigh Valley R. R. Co. | Chicago & Grand Trunk Railway. |
| Central Railroad of New Jersey. | Standard Oil Co. |
| Baltimore & Ohio R. R. Co. | Wide Water Pipe Line. |
| Baltimore & Ohio & Southwestern R. R. Co. | Atchafalaya, Topeka & Santa Fe R. R. Co. |
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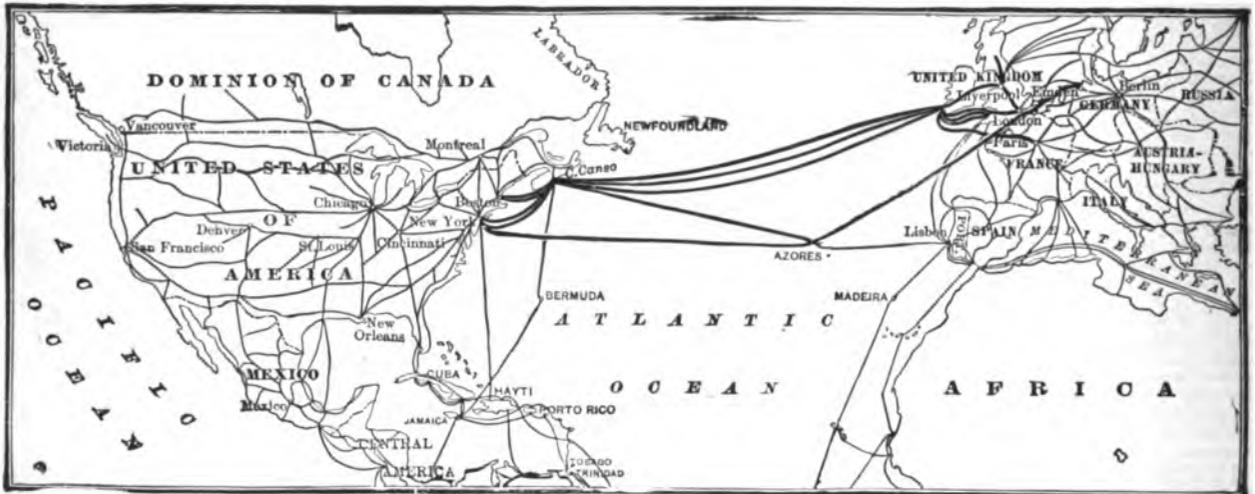


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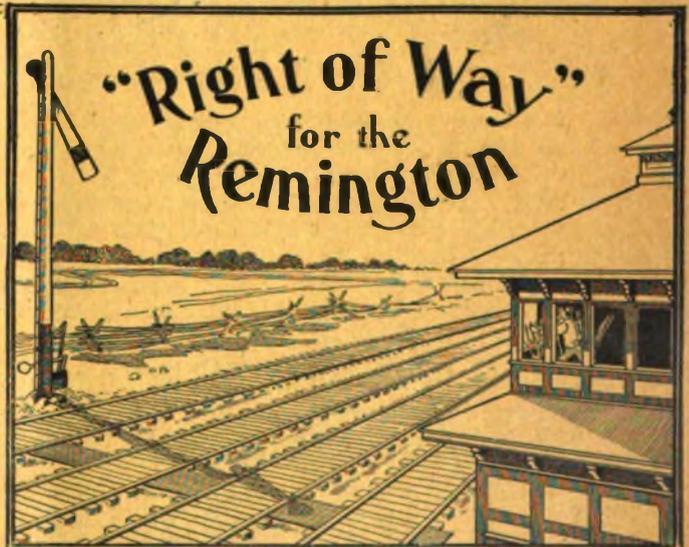
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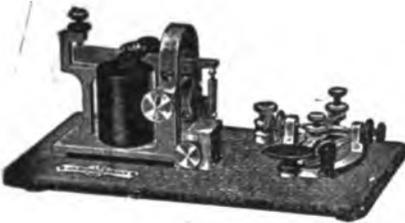
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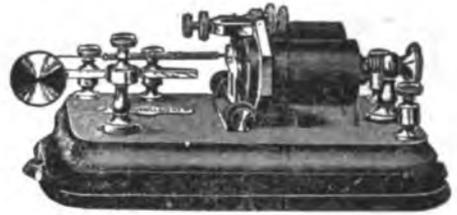
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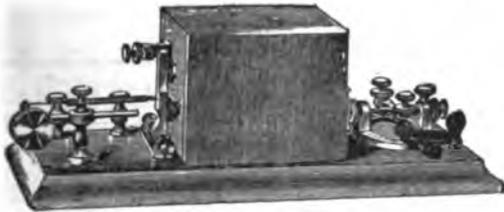
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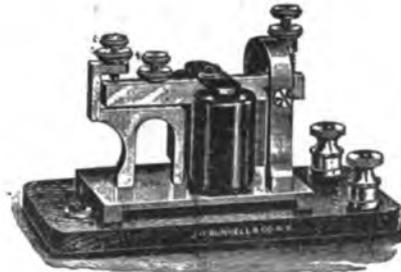
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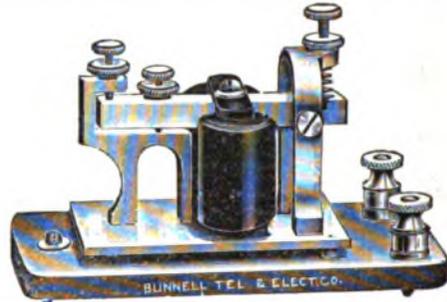
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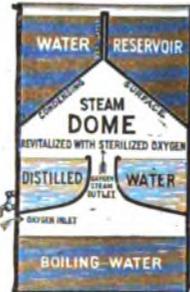
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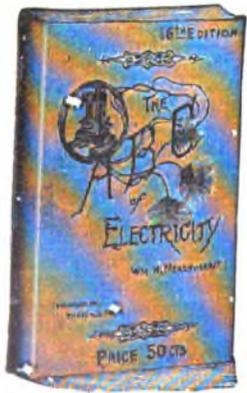
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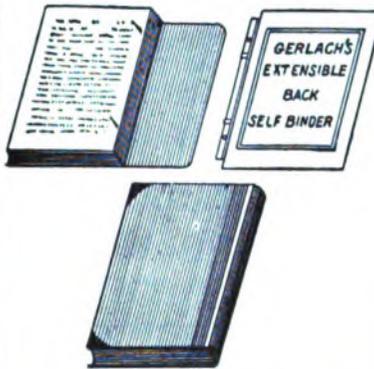
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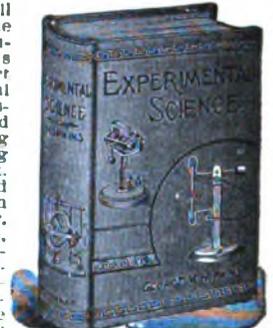
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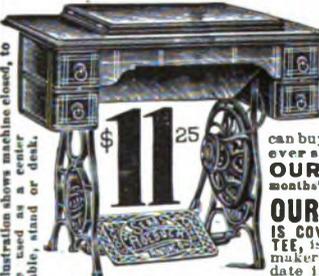


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No. 8.

NEW YORK, APRIL 16, 1901.

VOL. XXIV.

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SOME POINTS ON ELECTRICITY.

BY WILLIS H. JONES.

During the past few months, several requests having been received for a diagram showing the resistance coils and wire connections of the radial pattern of rheostat, we herewith illustrate the device as usually arranged for quadruplex apparatus.

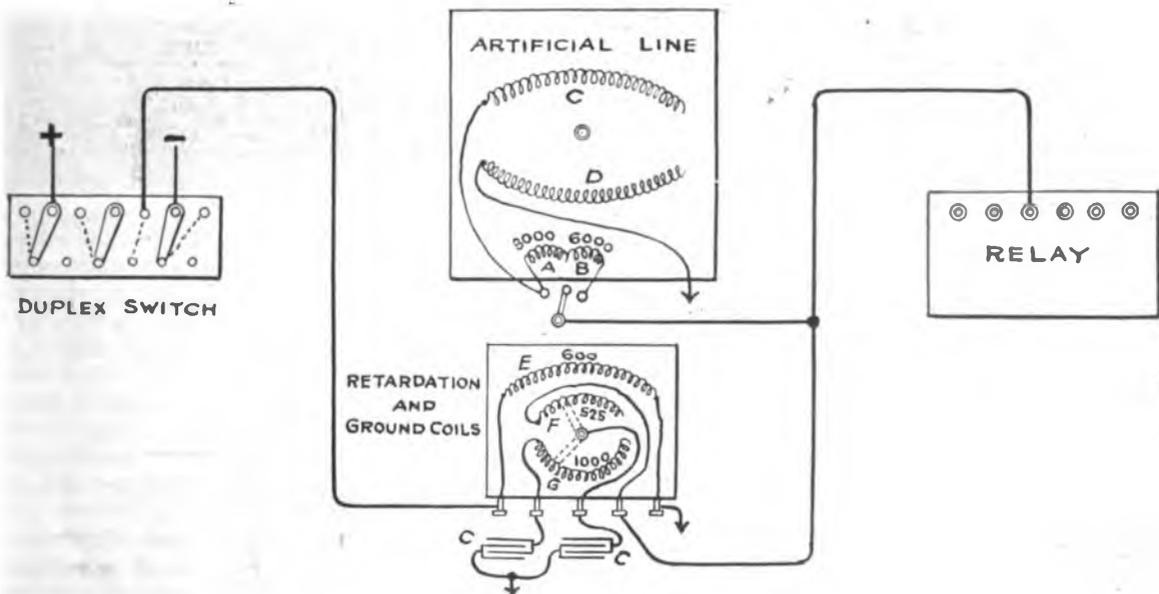
Coils *A*, *B*, *C* and *D*, in the larger box, are dif-

ferent portions of the artificial line, while coils *E* and *G* are the retardation resistances, one coil for each condenser. *E* is a separate coil of 600 ohms resistance and is called the compensating ground coil. By turning one or both of the dials in the

large box to the right or to the left, a greater or a lesser amount of the total resistance in the artificial line may be obtained and a "balance" thus taken. Coils *A* and *B* are additional resistances, to be used when the main line wire contains a greater amount of resistance than that of the coils *C* and *D* combined. While this pattern of rheostat is theoretically very pretty, and when new quite satisfactory, it has not been employed as extensively as might be expected. In fact, the number in actual use is comparatively small. Its weakest feature lies in the tendency of the dial to make a poor contact with the disks if not handled gently, while the disks themselves soon become oxydized and accumulate dirt, thereby developing irregular values of resistance at these points. As a rule, chief operators prefer the metallic plug pattern for the reason that in case any portion of the artificial coils becomes open or broken, a plug will mend the gap and he can proceed with his balance without further interruption.

A subscriber asks the following questions: "Please give method of measuring resistance with a voltmeter and an ammeter. Are measurements made with these meters as accurate as those made with a Wheatstone bridge and galvanometer?"

The accuracy of the readings of our best volt and ampere meters compares favorably with results ob-



ferent portions of the artificial line, while coils *F* and *G* are the retardation resistances, one coil for each condenser. *E* is a separate coil of 600 ohms resistance and is called the compensating ground coil. By turning one or both of the dials in the

tained by means of the galvanometer and wheatstone bridge method, so far as showing the respective values of the electromotive force and current is concerned; that is to say, when used in their legitimate capacity, but in making calcula-

tions by Ohms law, using the value of the current, or that of the voltmeter, as indicated by the needle, as one of the known factors, the result is not always so reliable, because in practical work one may be mistaken as to the true value of his second factor.

For example: Suppose that a wire chief desired to ascertain the resistance of a wire by means of an ammeter and his knowledge of the electromotive force in his switchboard. He would insert his ammeter in the circuit and note the value of the current when the wire was grounded at the distant end. Assuming that the needle indicated 50 milliamperes of current, .050 then becomes one of the known factors. If he used the first potential in his board, say 75 volts, 75 must necessarily be the second factor. Now, according to ohms law, $\frac{75E}{.050C} = 1,500$ ohms, the resistance of the circuit.

To find the resistance of the wire itself, we must deduct the lamp resistance inserted between the dynamo and the switchboard, which is placed there for the former's protection. This amounts to approximately two ohms per volt of potential, but as a few ohms either way makes no practical difference at that point, there has never been any effort made to give these lamps a strictly uniform value; and, furthermore, as the resistance of the carbon filament itself varies with its temperature, the same lamp does not at all times contain the same amount of resistance.

This drawback to the meter method acts detrimentally in two ways: It renders the value of the "deducted" resistance an unknown quantity, and drops the initial value of the electromotive force in a variable manner, thus making the value of the two "known" factors unreliable. By the galvanometer method the value of the electromotive force and the strength of the current is immaterial. When the needle ceases to be deflected by the current flowing through the two circuits, the rheostat indicates the actual value of the external wire in ohms. This statement amounts to saying that results obtained by means of volt and ammeter calculations are approximately identical with those obtained with a galvanometer, provided you are absolutely sure of the value of your factors.

(To be continued.)

Odd and Ends.

[Short, pithy items bearing on the telegraph are solicited for this column.—Editor.]

In Germany, when one newspaper cribs telegraphic items from another paper and prints them as original matter, the act is called "grapevine" telegraphing.

YOUTHFUL PRODIGY: "Pop, what does 'dynasty' mean?"

PATERNAL PROGENITOR: "A 'die-nasty,' my son, is what happens to a man who sends fifty-seven long, red, messages to the man he hates at 3 o'clock in the morning, and then discovers that the man didn't get any of them. Its most horrible feature is that complete mortification ensues before death occurs."

Appointed Assistant General Superintendent.

Mr. Charles M. Baker, for many years general superintendent of construction of the Postal Telegraph-Cable Company, Chicago, Ill., has been promoted to be the assistant general superintendent of telegraph, vice Mr. E. J. Nally, who was appointed general superintendent of the same interests on January 1, last.

Mr. Baker was born at Alexandria, Pa., April 13, 1854. He entered the telegraph service at Dwight, Ill., in 1870, as manager and lineman for the Great Western Telegraph Company, a position he held until 1873, when he was appointed to a similar position with the American Union Telegraph Company, also at Dwight. After the consolidation of the latter with the Western Union Telegraph Company he was appointed superintendent of construction of the Mutual Union Telegraph Company, and



MR. CHARLES M. BAKER,
Assistant General Superintendent Postal Telegraph-Cable Co.,
Chicago, Ill.

superintended the construction of the lines of that company from Chicago to St. Louis and Kansas City, and to all other points in the West reached by that company. From 1881 to 1883 he was special agent for the Western Union Telegraph Company. In 1883 he was appointed superintendent and manager of the Postal Telegraph-Cable Company at Cleveland, O., where he remained until January, 1884, when he was appointed superintendent of construction of the same interests with headquarters at Chicago, Ill., which position he held until 1898, when he was promoted to be general superintendent of construction, an office he held until his present appointment.

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

From Manager to Superintendent.

Mr. Edgar W. Collins, who for the past two years has been manager of the Postal Telegraph-Cable Company at Cleveland, Ohio, has been promoted to be district superintendent of the same interests, with headquarters at Cincinnati.

Mr. Collins was born near Ottawa, Ontario, December 25, 1852, a Christmas gift, as he himself terms it, to his parents. His childhood was one of vicissitude, and early in life he came to this country. He learned telegraphy, and in 1869 found the first position in his chosen field of work. After varied experiences, covering the period up to 1875, he entered the Western Union service at Cleveland, and there remained as an operator until July, 1883. In this year he became the chief operator of the American Rapid Telegraph Company, which afterwards was merged into the Bankers and Merchants. From



MR. EDGAR W. COLLINS,
Superintendent Postal Telegraph-Cable Co., Cincinnati, Ohio.

the latter it was a natural transition to the employ of the Postal Telegraph-Cable Company at Cleveland, with which he has ever since been identified, promotion in its service coming with pronounced regularity. He was married in 1886 to Miss Anna G. Conway, of the New York Postal force. They have two daughters.

Mr. Collins has been in the past an occasional contributor to the columns of TELEGRAPH AGE, and his clever character sketches which have appeared therein have been widely read. As a song writer he has also won favor.

Resignations and Appointments.

Mr. H. A. Tingley, manager of the Western Union office at Bath, N. Y., has been transferred to the Newburgh, N. Y., office, as manager, while his former assistant, Mr. Bernard C. Ford, has been promoted to the head of the Bath office.

Mr. George R. Rigdon, formerly manager of the Postal Telegraph-Cable Company at Scranton, Pa., has returned from Missouri, to resume his old position.

Mr. Charles H. Warth has been appointed chief operator of the Western Union office, Milwaukee, Wis., filling the position left vacant by the death of E. M. Shape.

Mr. H. J. Lockrow, manager of the Postal Telegraph-Cable office at Newport, R. I., has resigned to enter other business. The position has been filled by the appointment of Mr. G. M. Foote.

Mr. H. M. Bennett, the former manager of the Postal at Binghamton, N. Y., who left that place to enter the Western Union service as manager of the Newburgh, N. Y., office, has returned to his former position.

Mr. W. I. Capen, for the past two years superintendent of the Postal Telegraph-Cable Company, Chicago, Ill., has been appointed superintendent of construction of the same interests, with headquarters at Chicago.

Mr. Frederick W. Conger, for the past two years superintendent of the Postal Telegraph-Cable Company, at Cincinnati, Ohio, has been transferred to Chicago, Ill., to fill the office of superintendent, vacated by Mr. Capen.

Mr. B. J. Ross has been appointed manager of the Postal Telegraph-Cable Company, Cleveland, Ohio, vice E. W. Collins, promoted to be superintendent. Mr. Ross has acted as chief clerk of the office for several years, and is well qualified to fill the managership.

Obituary.

George Cowen, a telegraph operator of Fall River, Mass., died in that city on March 27.

P. F. Hurcur, of Hazleton, Pa., a telegraph operator, was instantly killed March 10 by being struck by an engine.

S. S. Hill, a broker operator at Kansas City, Mo., died March 12 from the effects of a fall down a flight of stairs.

Walter M. Siegler, of Lancaster, Pa., a telegraph operator, twenty-three years of age, was fatally injured, March 10, by falling under a train of the Pennsylvania Railroad.

W. Harry Clarke, who was formerly manager of the Baltimore and Ohio Telegraph Company at Washington, D. C., died in that city of pneumonia on April 1. He was also connected with The United Press at one time, and had worked for various telegraph companies. For some years past Mr. Clarke has been in the Government employ in the Treasury Department.

Miscellaneous Items.

Steps have been taken for a railway brotherhood building, to be erected in St. Louis, Mo. L. W. Quick, of the Order of Railway Telegraphers, was made secretary of a committee to promote the matter. The proposed building will contain offices and lodge rooms, and probably hotel accommodations for the visiting members of the different railroad organizations.

Personal Mention.

Mr. Alexander Cochrane has been elected president of the American Telegraph and Telephone Company, vice J. E. Hudson, deceased.

Mr. C. C. Adams, superintendent of the Postal Telegraph-Cable Company, Philadelphia, Pa., has returned from Jamaica, West Indies, where he has lately spent a few weeks. He was accompanied by his wife.

Mr. William H. Baker, the vice-president and general manager of the Postal Telegraph-Cable Company, passed the forty-sixth anniversary of his birth on April 13. A few of his friends took advantage of the occasion to tender him a complimentary dinner.

Mr. L. B. McFarlane, superintendent of the Bell Telephone Company, Montreal, Quebec, and the president of the Old Time Telegraphers' Association, accompanied by his wife, recently passed a few days in New York. Piloted by Mr. John Brant, the secretary of the Association, Mr. McFarlane called upon a number of New York friends.

We learn, on going to press with this issue, through Mr. F. W. Jones, who is a next door neighbor and old friend of Mr. James D. Reid in New York city, that Mr. Reid lies at his home in a very weak condition, with chances of recovery against him. His good constitution, which has been so greatly conserved by his abstemious and correct habits, is serving him well in this hour of strain and struggle against the inroads made by the abscesses with which he has been afflicted. He has the prayers and good wishes of a host of friends. He has a devoted wife and brother who are in constant attendance upon him, and an anxious daughter, residing in Edinburgh, Scotland, is kept advised by cablegrams.

New York Visitors.

Mr. H. A. Tuttle, general manager of the North American Telegraph Company, Minneapolis, Minn., accompanied by his wife.

Mr. J. R. T. Auston, of St. Louis, Mo., the vice-president of the Brotherhood of Commercial Telegraphers.

The Omnigraph.

The Omnigraph Manufacturing Company, of 39-41 Cortlandt street, New York, have recently placed on the market a telegraphic instrument known as the Omnigraph. It consists of a baseboard on which are secured an ordinary key and sounder, between which a disk is mounted, formed on its periphery with teeth. A spring contact adjacent to the wheel engages the peripheral teeth of the disk. Although irregular, the arrangement of the teeth is arbitrary. For if the disk be rotated by means of a small crank-shaft, geared with the disk-shaft, the spring contact is forced outwardly by the teeth, but drops back by its own elasticity, and thus makes and breaks the circuit, thus forming the Morse alphabet.

A close inspection of the disk would reveal that the teeth are so arranged as to spell the sentence, "John quickly extemporized five tow bags." If the disk be rotated forwardly, this sentence, thus oddly worded to include every letter in the alphabet, is spelled by the sounder; if rotated in the opposite direction, the sentence will be telegraphed backward.

The disk is completely under the control of the operator. It can be rotated as slowly as desired; or it can be so rapidly turned that its curious sentence will be received from the sounder with a speed that would open the eyes of a good operator. Moreover, the message on the disk is transmitted with a distinctness and faultlessness which the most perfect operator can never hope to attain. At first blush it might seem that the operator simply learns one sentence forward and backward, and that the instrument is a good teacher only within very narrow limits. But this disk can be partially rotated forward and backward any number of times, in any place, so that the letter to be transmitted cannot possibly be anticipated. Thus the operator learns how to receive a cipher message, the meaning of which he cannot know.

This device is no doubt an excellent one for operators who desire to use the typewriter in receiving from the instrument. It is only necessary to have a motor or some one turn the crank forward and backward at the speed desired, and the work will be found to be made comparatively easy.

The Railway Telegraph Superintendents.

As previously announced, the next annual meeting of the Association of Railway Telegraph Superintendents will be held at Statler's Pan-American Hotel, Buffalo, N. Y., on Wednesday, Thursday and Friday, June 19, 20 and 21. The indications now are that there will be an unusually large attendance, many superintendents already having signified their intention to be present, a number being accompanied by their wives and families. Undoubtedly the Pan-American Exposition, which opens on the first of May, is also proving to be an additional drawing card, and to this fact may be attributed in a measure the expected presence of so many ladies.

As some of the superintendents have expressed a desire to obtain additional information regarding the possibilities of simultaneous telegraphy and telephony, it is hoped that this interesting topic may be brought up in a paper treating on the subject. It is not out of place in this connection to note that Mr. L. B. Foley, superintendent of telegraph of the Delaware, Lackawanna and Western Railroad Company, New York, has lately made some interesting and successful experiments in this respect, which are referred to at length in an illustrated article elsewhere in this issue.

The very favorable auspices under which this convention will be held, make it a particularly desirable occasion for the display of exhibits. Ample space will be reserved for this purpose. Correspondence on this subject should be addressed to Mr. P. W. Drew, secretary and treasurer of the association, and superintendent of telegraph of the Wisconsin Central Railroad Co., Milwaukee, Wis.

Simultaneous Telegraphy and Telephony.

Mr. L. B. Foley, superintendent of telegraph of the Delaware, Lackawanna and Western Railroad Company, New York, assisted by his chief operator, Fred G. Wyman, has been for some time past conducting telegraph experiments on a metallic telephone circuit from the general offices, 26 Exchange place, New York, to the Brooklyn terminal, a distance of about six miles, in order to ascertain if two telegraph circuits could not be maintained on the same wires without one system interfering with the other. Simultaneous telephony and telegraphy was successfully carried on between the two points mentioned, the results obtained for a period of over a month being very satisfactory, and continuing so until the telephone company changed its plan of operations to a common battery system, which introduced complications rendering one or the other system, and at times both systems, useless.

change in the railroad general office. While the operator at the private branch switchboard was able to ring the distant telephone on the working adjustment, trouble was experienced when the distant end tried to get the home office with his telephone ring, the generator not being strong enough to cause the drop on the switchboard to fall. To overcome this difficulty, when the Brooklyn terminal desired the telephone operator, the other Morse circuit was brought into play. Instead of a telegraph key, a small switch was placed in circuit by which the local arrangements of the relay were thus reversed, so that when the distant station wished the telephone operator he could throw the switch, thereby releasing the armature of the relay, closing a local circuit, which was connected with a buzzer in the telephone booth. The Brooklyn terminal was enabled to communicate over any of the various extensions which run into the private exchange in the general office,

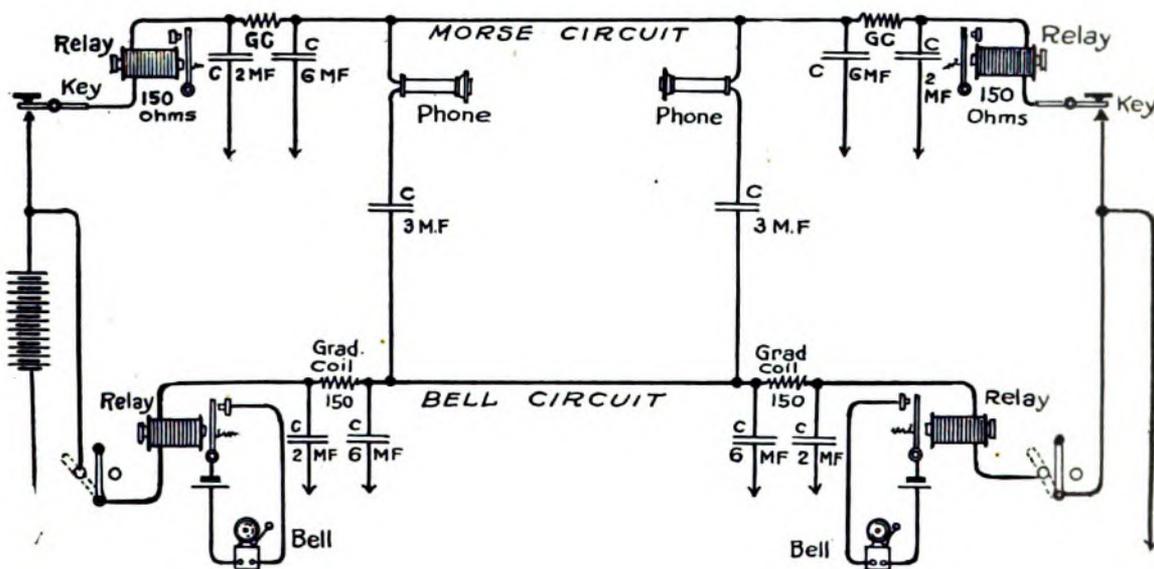


DIAGRAM SHOWING ARRANGEMENTS OF SIMULTANEOUS TELEGRAPHY AND TELEPHONY.

The diagram shows just how the system was arranged for the successful working which was obtained; it illustrates how two perfect Morse telegraph circuits were obtained from practically one metallic telephone circuit. The main telegraph battery of 45 volts was placed in the general office of the railroad company in New York. It will be observed that the arrangement of the condensers and graduating coils favor that of the Van Rysselberghe system very closely, excepting that instead of using four graduating coils, but two were used, and instead of two condensers four were employed. The line being so short and a very powerful battery not being required, it was found that the two graduating coils, with the additional condenser, were sufficient to overcome the effects of attraction and repulsion impulses of the Morse currents on the diaphragm of the telephone receiver. The telephone extension upon which this system was tried runs into a private branch ex-

while telegraphic signals were being transmitted without any material interference, and that little was so very slight that a person who did not know the existing conditions would never realize that a Morse circuit was being operated on the same wire.

THE STOCK QUOTATION TELEGRAPH CO.—The Stock Quotation Telegraph Company removed on April 6 from its old offices at 16 Broad street to its sumptuous new quarters at 54 Broad street, New York, the change being effected under the direction of Mr. John Burry, the electrician of the company, with his able assistants. The offices are conveniently arranged, and the private rooms occupied respectively by President William H. Hurst and the secretary and treasurer, John J. Walsh, are fine examples of modern business apartments. Notwithstanding the intricacies of this system, the removal was effected without the slightest hitch.

THE APPLICATIONS AND REQUIREMENTS OF A PRINTING TELEGRAPH.

BY ROMYN HITCHCOCK.

Many efforts have been made by inventors to produce a practical printing telegraph which will supersede the Morse key in the telegraph business of the world, and many failures and disappointments have resulted. It is not an unusual experience that inventions of great ingenuity and apparent value have been perfected at large expenditure of time and money, only to discover that they are not wanted in the commercial world. We hear much of "the state of the art" whenever new devices are brought forward, but the state of the art, as shown in the records of the United States Patent Office, may be quite different from the conditions which prevail in practice. Inventors are by nature optimistic. They are not, however, usually able to accurately gage the conditions under which their inventions must compete with existing devices. Superiority in certain directions may be offset by conditions which are practically prohibitory of the application of improvements which effect minor economies, although in the aggregate the saving may be large.

The writer has followed the development of the printing telegraph for many years, and while recognizing the value of a thoroughly good, cheap and reliable device of this nature, for special applications, there are obvious and good reasons for believing that it can never be introduced for the general telegraphic work of the great companies. The most that can be said in favor of the general use of a printing telegraph is that it practically doubles the speed of transmission by the Morse key. The further claim is made that it will reduce the cost of operating by permitting the substitution of typewriters for expert telegraphers.

Regarding the increase in speed, the advantage is not sufficiently great to be attractive in itself, particularly when the considerable cost of the instruments and keeping them in order is taken into account. The direction of improvement in telegraphy is certainly above all in an increase of speed of transmission; but this increase must be very much greater than the printing telegraph, by reason of its mechanical and electrical limitations, can ever realize. Machine transmission, at a speed far beyond any system now in use, is destined to be the great universal system of the future.

Regarding the plausible argument of economy in operating, this is illusory because of the erroneous assumption that a general telegraph business can be successfully conducted by untrained operators. Granting that the parsimonious methods which characterize the present telegraph monopoly in the payment of faithful employees leads to a large average of inefficiency and loss of time, all important lines, on which service must be maintained under the most adverse conditions, are necessarily in charge of experienced men, and the introduction of printers on such lines would require equally good if not superior qualifications in the operators, who would have more than a simple key

and relay to control. This is particularly true when the printers are duplexed, as they would necessarily be for this service. The balancing of the line for duplex working would require about the same skill as now is demanded of quadruplex operators. It is likewise doubtful if competent typewriters could be secured for the same low wages that the Western Union now pays for ordinary Morse operators.

For these and other reasons, which the practical telegrapher will immediately recognize, the printing telegraph operated from a keyboard can never compete with the Morse key for general telegraph service. In reply to this it may be said that the old Hughes printer is still used on several British lines, and the Baudot system is used in France. While these systems may be referred to as indicating the practicability of operating printing telegraphs over long lines, they do not meet the requirements for universal application. A close inquiry into the reason why the Baudot system is used in France will indicate that the intrinsic merits or advantages of the system are not the only considerations.

Nevertheless, a printing telegraph which fulfils certain specific requirements would doubtless find considerable use on particular lines operated by the telegraph companies, and especially on certain railroad lines. At stations where the operators are required to be frequently absent from their posts on other business, the printing telegraph can be so arranged that it will receive messages while no one is present; at least it will be unnecessary to have a regular telegraph operator at every insignificant station on the line, since any person can quickly learn to use the apparatus.

However, telegraphers need not have misgivings concerning the introduction of the printing telegraph. A few of them may be changed about; but the way is opening for a large expansion of the telegraph service, and experienced telegraphers will not only be more and more in demand, but their services will be more adequately recompensed than they are now.

A much larger field for the printer is in connection with the telephone, or in the line of special wire connections between offices, factories, warehouses and homes. This field is not yet occupied by any similar device. It is virgin ground, unexplored and undeveloped. But it has its possibilities. Some years past the writer was in London, and in conversation with a gentleman connected with the telautograph was much interested to learn of an important use which has been made of that ingenious invention. A certain piece of machinery was wanted immediately and the factory was located a long distance from the business office in the city. Ordinarily some hours would elapse before the order could be delivered at the factory, since it was necessary to submit a diagram. Having telautograph connection, the order was immediately written on the machine and the diagram drawn out and sent over the wire. The printing telegraph will not make the diagram, but otherwise it fulfils the purpose which the telautograph was intended to accomplish, and for which it was

confidently believed that admirable invention would be largely used.

However perfectly the telautograph may operate, it is too slow for general commercial use. No person will write when a typewriter can be employed, and the relatively few cases in which *fac simile* signatures are necessary in wire communications scarcely warrant the hope of a very general use of the telautograph.

The introduction of the printing telegraph in connection with the telephone, however, is eminently practical, and offers an attractive field for enterprise. Verbal communications are not always satisfactory to either party. Frequently they are subject to confirmation by letter, and perhaps the letter never comes. While the line is in use for speaking one may say: "Please put that down in writing," and forthwith the telephone is switched off and the printing telegraph is switched on, and the writing is done. Moreover, if a man is absent from his office, a message can be recorded on his printer, which may be securely locked in his desk. There is thus no waiting to be called up when some one returns to receive the communication.

The "state of the art" in printing telegraphs, as revealed by the Patent Office, shows great activity and ingenuity. It is quite evident, however, that most of the inventors have entered the field without a very clear conception of the most serious obstacles to success. The first question asked of an inventor when he has completed his machine is: "Will it operate over a telegraph line?" The assumption is that if it will operate over a line the problem is solved. And so it is; but the practical difficulties in producing a printing telegraph are not, as might be and usually is inferred, in the line operating. Experienced telegraphers can meet any reasonable exactions in the line working, and the real difficulty is not in the line requirements, but in the printing mechanism. Here, then, is the stumbling block which has blasted the hopes of a multitude of inventors.

For a clear understanding of the requirements, we should separate in our minds the line working, which pertains to telegraphy, from the printing mechanism, which usually is, or at least may be, a separate contrivance designed to operate with such impulses as the telegraph line transmits. One great reason for the failures in this field has been that almost every inventor has undertaken to construct a printing mechanism of his own, while the real merit of his invention is in the transmission of electric impulses and the distribution of them at the receiving end. The man who can accomplish this in the best way is not usually the sort of man who can design a printer, and the less he meddles with this part of the work the more quickly his invention will take practical form. For demonstration of his system an ordinary typewriter, in the absence of anything better, will suffice, and when this has been accomplished a suitable printing mechanism must be adopted.

It is a problem with which many keen inventors have wrestled, and some wonderfully complex and

delicate, but not very satisfactory, contrivances have been evolved by experimenters. Therefore, it is assuming too much to suppose that one has only to give an order to a mechanic and he will forthwith evolve a practical printer. Inventions cannot usually be made to order. To one who knows what is necessary in this connection, and who is acquainted with some of the past efforts, the supreme confidence with which inventors undertake to accomplish results, each for himself, regardless of what others have learned, is not indicative of a clear conception of the difficulties to be overcome. Much time is often wasted in projecting new devices without regard to the experience of others. Inventors generally, and many mechanics, are abnormally sensitive to the least suggestion of a limitation to their ingenuity or skill, and a proposal to refer to the work of others is likely to be received with great disfavor. But it is the part of wisdom and a broad knowledge of men and affairs to combine past experience with the best special skill to accomplish a result.

No printing telegraph can be successful which operates a commercial typewriter. The nearest approach to a successful machine of this kind seems to be the Himrod printer, in which the mechanism of the typewriter is actuated through the medium of compressed air. But the Himrod printer was handicapped by a keyboard with two shift keys, and a method of manipulating the shift key which was confusing to an inexperienced operator. The objection to a typewriter machine is that it requires too much power to operate it. From a superficial view the power for printing is quite independent of the line impulses, since the relays have only to complete circuits from local batteries, which may have currents of any required strength. But practically the relay contacts restrict the amount of current which can be carried within comparatively narrow limits, and, moreover, the duration of the contacts must be sufficient to enable the mechanical movements to be perfected. For this reason the typewriter imposes limitations in speed, and while it is possible to operate under favorable conditions as rapidly as the keys can be used in practice, the margin of effective work is too near the limit of practical requirements to admit of absolute reliance.

No system of printing which involves synchronous movements at distant points can be universally successful, and there are serious objections to any system of multiplexing which gives the line to different writers in succession. Perhaps the greatest defect of such systems, apart from their liability to be interrupted by line disturbances, is the necessary limitations they impose on the duration of contacts. Whether the combinations transmitted for each letter are many or only three, if we are to insure the greatest possible effectiveness and certainty of working, they should not be of uniform duration, since the last impulse should always be made as long as possible to allow for the mechanical work which has to be done in striking the letter. The whole problem now is, to reduce the force required to do this mechanical work. Here

is the one remaining element of weakness in the printing telegraph.

The use of the printing telegraph can be greatly extended in the general telegraph field if the transmission can be made very much more speedy. Machine transmission, with a printer that will operate at a speed of a hundred words a minute as a minimum in each direction, while working duplex, would bring the system into rather close competition with the Wheatstone, with corresponding advantages of considerable value. The Buckingham machine is operated in this way, but it is difficult to understand how that rather complex mechanism is able to transmit words with the speed claimed for it. If that machine works at the rate of one hundred words a minute, with six impulses over the line for every letter and space, then it is assuredly possible, with other means, to greatly exceed that speed of transmission and printing.

In the writer's opinion, not much can be accomplished by new inventions in the direction of improving the purely telegraphic part—that is, the line working and the local receiving and distributing systems—of the printing telegraph as it stands to-day. Improvements will doubtless be made in minor mechanical details, but the broad principles of operating are doubtless as well worked out generally and as much simplified in principle as is possible.

What is now required is a simple printer to which these principles can be applied. Here is a field for inventive genius. The man who can make the simplest practical mechanical page-printer, to work like a typewriter, and which can be operated with the least possible power at a speed of more than one hundred words a minute, will deserve a rich reward.

In some telegraph systems the printing mechanism is an integral part of the local distributing devices. To these an independent printer would not usually be applicable. But with all those systems in which the last line impulse perfects a combination to operate a key or a printing lever it would be of use.

The tendency of the day in science and the arts is toward specialization. The best and surest progress is made when work is done by men having special qualifications for it. If the construction of a printer for telegraph use is taken up by skilled mechanics, we may anticipate an early solution of the problem which has thus far baffled the inventors of printing telegraphs.

The annual report of the wire department of the city of Boston for 1900 comes to us with the compliments of William H. Lott, the Commissioner of Wires. The subject matter is treated in a most comprehensive and intelligent way, all the work that was performed during the year is fully described, and frequent excellent illustrations and maps contribute much to the interest and clearness of the statement.

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

Twenty-fifth Telephone Anniversary.

The annual stockholders' meeting of the American Telephone and Telegraph Company, held in New York, March 26, marked the twenty-fifth anniversary of the invention of the telephone by Professor Bell. In a retrospect of the progress since that time the report of Acting President Alexander Cochrane said:

"Twenty years ago there were 47,880 telephone subscribers in the United States, and 29,714 miles of wire in use for telephonic purposes. At the end of last year, there were 808,880 exchange stations equipped with our instruments, and 1,961,801 miles of wire were employed for exchange and toll line service."

The following table was presented showing the increase in exchange equipment:

	Jan. 1, 1892.	Jan. 1, 1900.	Jan. 1, 1901.
Exchanges	788	1,239	1,348
Branch offices	509	1,187	1,427
Miles of wire on poles....	180,139	509,036	627,897
Miles of wire on buildings	14,954	15,087	16,833
Miles of wire underground	70,334	489,250	705,269
Miles of wire submarine ..	1,029	3,404	4,203
Total miles of wire.....	266,456	1,016,777	1,354,202
Total circuits	186,462	422,620	508,262
Total employees.....	8,376	25,741	32,837
Total stations	216,017	632,946	800,880

On extra-territorial and toll lines there were 101,087 miles of pole lines, and 607,599 miles of wire, being an increase over last year of 11,795 miles of pole line and 105,767 miles of wire. There were on the average 148,528 toll connections daily, and the revenue from this source alone in the year 1900, was \$8,972,030.90, not including the earnings of the American Telephone and Telegraph Company itself.

The estimated number of daily exchange connections is 5,668,986, or about 1,825,000,000 per year. The average number of daily calls from each station is 7 1-10, the cost to the subscriber varying in different places from 1 cent to 9 cents per connection. The investment in line construction, equipment, and supplies for the long-distance system up to December 31, 1900, was \$16,152,020.72.

The old board of directors was re-elected. A resolution was also passed authorizing the transfer of certain lines and property to the American Telephone and Telegraph Company of West Virginia.

An Unfounded Statement.

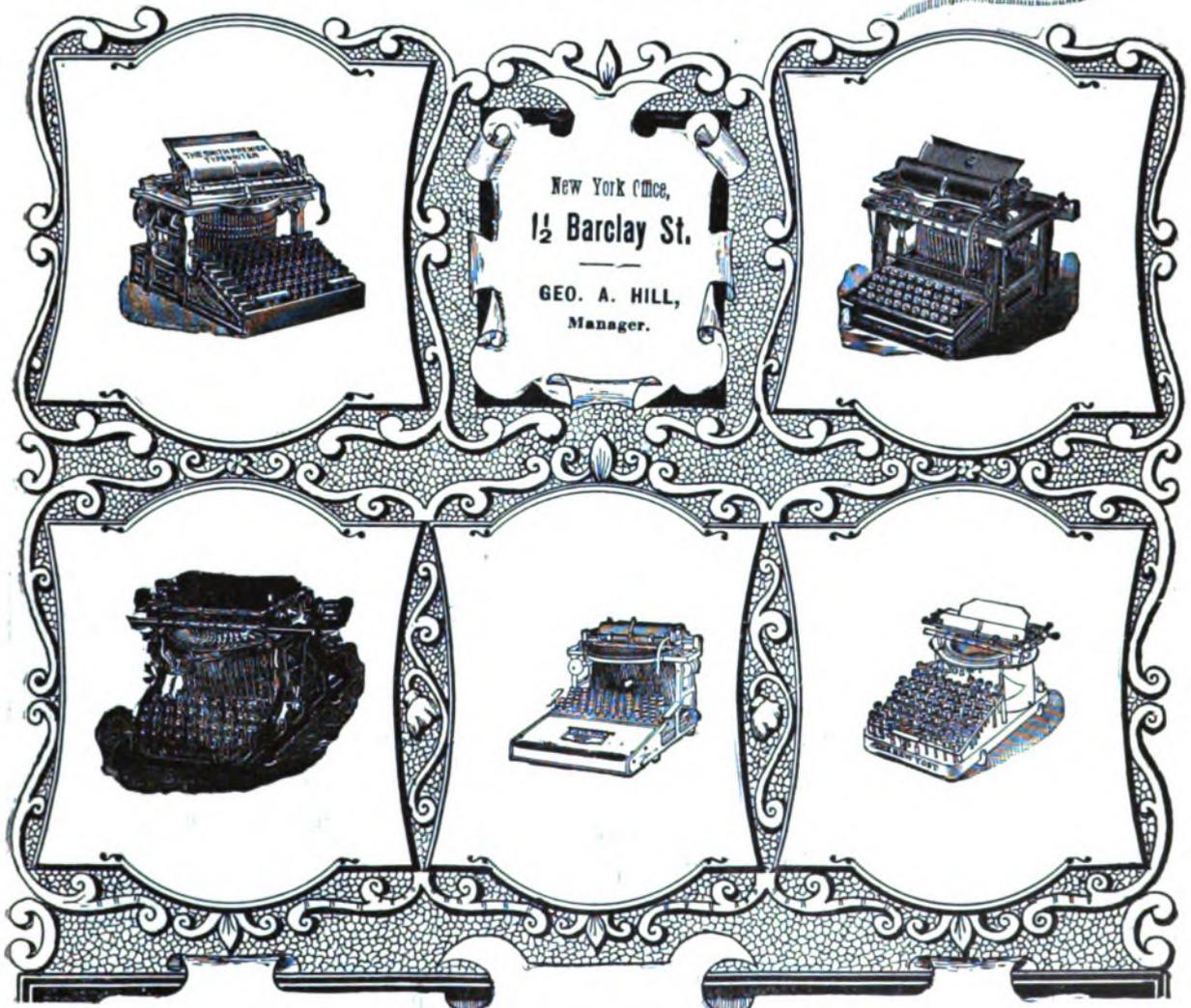
The following item, which has not the semblance of truth in it, is going the rounds of the newspaper press of the country:

"Thomas T. Eckert, president and general manager of the Western Union Telegraph Company, superintended the interment of John Wilkes Booth, the assassin of President Lincoln, and is said to be the only man now living who knows the spot where the remains lie. The location has never been divulged to his most intimate associates."

As a matter of fact, the body of John Wilkes Booth lies in the family plot in Greenmount Cemetery, Baltimore, Md., where it was interred February 16, 1869.

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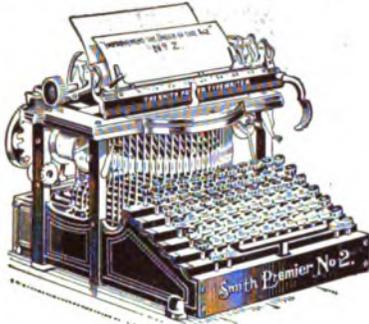
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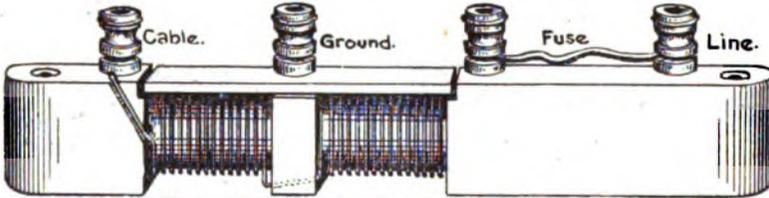
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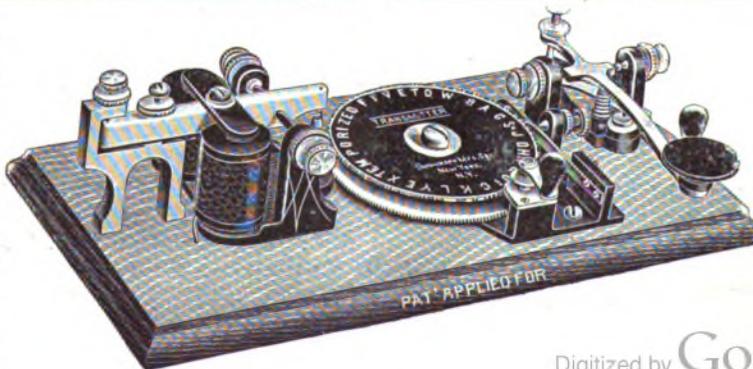
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CHANGES OF ADDRESS.—The address of a subscriber will be changed as often as desired. In ordering a change of address the old as well as the new address must be given.

NEW YORK, April 16, 1901.

On Appointment, Promotion and Method.

The question of fitness for positions in the telegraph service is always carefully considered by those in authority, no matter who the applicants may be or for what places they may aspire. Before an operator receives an appointment at a stated salary to work a certain wire, his ability for the special duties he will be called upon to perform, must be first satisfactorily ascertained. So, too, for the higher positions of manager and of superintendent, skill not only as operators, but the possession of the necessary executive faculty, must first be clearly known and demonstrated. The same care also governs the selection of the general superintendent and of the general manager himself. Thus it will be seen that throughout all grades in the service the constant aim is to secure only men who are fully competent to fill their respective positions.

Naturally there is a large measure of responsibility attached to the making of all such appointments, so that those upon whom this important duty falls realize the necessity of guarding against mistakes and errors of judgment in the selection of an appointee. Therefore, from the directors of a company, down to all in whom is lodged the power of appointment, vigilant scrutiny of fitness is demanded.

All this is a consistent and proper method of procedure, and especially so where such large, peculiar and wide-extending interests are involved as distinctively belong to a telegraph company. This being the case, how important it is, then, for every person in the service who is ambitious for promotion to prepare himself for advancement, for from the up-coming ranks choice must of necessity be made. In controversion of this it is sometimes said, and we are aware to what an extent the opinion is shared in by operators, that "pull," or fa-

voritism, rather than merit, secures advancement, that genuine worth is apt to count for but little, and generally goes unrewarded. Whether or not there be any truth in this assertion, on general principles it cannot be accepted, for its admission would be to negative an efficient administration of the company itself. Therefore, in considering the matter, it should be on broad and generous grounds, rather than from a narrow point of view, hence the insistence with which we have urged that the individual should qualify himself to fill a position higher than the one he already occupies. Valuable services are always in requisition, and intelligence of a practical order is bound to secure recognition.

The detail of telegraphic management, however, may not always be above criticism. When the yoke of certain governing rules adopted in business methods, fits the men but roughly, under which they chafe, and the enforcement of which is apt to arouse within them a feeling of discontent and resentment over what they regard as unfair treatment, it may be wise to pause and consider the truth and the causes of such an unfortunate condition. Much injustice, it is claimed, is inflicted upon the men, particularly in the larger offices, by the compulsory filing of a daily average slip. While, in the first place, this requirement is regarded as a reflection upon the personal honesty of the individual, yet, as it will be seen, it more frequently defeats its avowed purpose by affording a means of successfully maintaining false representation on the part of those who really need to be held in check.

As an instance of this, we are informed that recently in a certain office a young operator who was struggling to make a big average and so gain favor in the estimate of his superior, pocketed some short messages, expecting that he would soon have an opportunity to work them off, and thereby add to his own credit as a rapid worker. In this purpose he was defeated, for a customer calling to inquire regarding one of the messages caused an exposure of the trick. The same thing, however, as is well known, has been successfully carried out hundreds of times before, and has happened in all offices. Frequently long messages have been withheld in order to avoid their early handling and so occupy time that might otherwise be more profitably employed in the transmission of shorter dispatches, hence swelling the record of a day's work. This practice has often resulted in operators carrying about with them forgotten and consequently unsent telegrams.

A flagrant case in point is recalled: An operator informed us some time ago that once, while he was in the "record struggling" business, he pocketed fourteen messages, including two cablegrams, intending to send the lot later, but forgetting to do so carried them about with him for several days. To report such a matter to the chief operator would, of course, have caused his instant dismissal. He consequently said nothing, but tore the messages up and, trusting to luck, left the matter for the company to meet and fight out with irate customers as best it might. In this case-

"self preservation is the first law of nature," was the operator's reasoning, and it may be said that he still holds his position.

All this goes to prove that the average slip is not always conducive to, nor does it reflect the prompt and extensive handling of business. It has often been said that good and reliable operators have been reprimanded by officials for being slow, when as a matter of fact they dispatched business as it was received, conscientiously handling the long and short messages in their proper order.

This idea of "making a record" on the part of a few in each office, to the detriment of the telegraph service itself and to the prejudice of the fair-minded and upright employees, is a pernicious one. Yet it finds encouragement in the very means established to presumably put the office on its mettle.

Apt illustration of this fact is found in the Government Post Office Department, where complaints precisely of the same nature as above recited are made to the injury of the service. Substitute letter carriers, when detailed to temporarily take the place of old and reliable postmen, absent, perhaps, on account of illness, rush at a breakneck pace around the district assigned them, bent on making a big average, often purposely missing the delivery of letters in one or more stories of buildings, but nevertheless making "time" and "record" as speedy men. When the regular men return to duty they are taken to task and questioned as to why they cannot make as good time as that of the substitutes. It has required the investigation of Post Office inspectors to show that the steady, regular men, those who perform their duties faithfully, could not possibly maintain the high average work day after day, apparently fully met by agile substitutes, without utterly breaking down.

And so it is that the fair-minded operator who is working in an honest manner in the service of the company employing him, cannot compete with the dishonest methods employed by those who are simply straining to establish a record.

Chicago Board of Trade Settlement.

The Chicago Board of Trade has finally adjusted its differences with the Western Union and Postal Telegraph companies and has resumed the sending out of its quotations over the country.

It is about ten months since the public quotations of the Chicago Board were cut off. Since then no official quotations have been sent out. Some of the private wire houses have promulgated quotations based upon actual trades, but they were not official.

It was evidently the belief of the instigators of the Chicago movement that it would be impossible for the country to do a grain business without the Chicago quotations. They imagined that every other exchange would stop, and bring such a pressure to bear upon the telegraph companies that they would throw up their hands and surrender promptly to the Chicago demands.

The exchanges throughout the country have apparently done very well without the aid of the

Chicago quotations, and the knowledge of this fact has at last brought the Chicago Board of Trade to its senses. All outside exchanges have profited at the expense of Chicago's folly.

Chicago brokers have made a continuous complaint of a falling off in business, owing to the stoppage of quotations and other restrictive measures adopted and attempted by the directors of the Chicago Board; and the complaint of the Chicago traders had at last become so loud that the directors had to change their tactics.

The complaints of the Chicago grain men were forcibly voiced before the surrender by the head of one of the most prominent firms. He said he had tried to keep loyal to the directors of the Board of Trade, but that their last effort to restrict business—to prevent commission houses operating private wires from furnishing market news and gossip—capped the climax of their folly. He added: "Nearly all of the Board's legislation for the past year has been wrong. The directors should not have tried to shut up bucket shops; it is not their business. The tendency of nearly all their legislation has been to drive business away from Chicago. They have prevented our market quotations from going out to the country, and now they propose to tell a man what he must say over his own private wire."

Talk like this became so general and so rampant that the directors saw that it was time to call a halt. Within one week twenty-two Chicago firms secured memberships in the Milwaukee Chamber of Commerce and threatened to transfer all their business to that point. It may be that the surrender of the Chicago directors, the restoration of quotations and the abandonment of other restrictive measures will head off the movement toward Milwaukee; however, this can hardly restore the trade which Chicago has lost to other exchanges.

Consolidation Rumors.

Once again rumors of consolidation between the telegraph and telephone companies are rife. Differing changes on the subject have been rung out in the daily press, the latest variation being that the American Telephone and Telegraph Company is to absorb the Western Union, on the comfortable assurance that the transfer was to be effected on the basis of a six per cent. guarantee. Editorial writers have speculated on and moralized over the combination of interests and of the "revolution" in prospect of being able to transmit over a single wire at the same time both electric and spoken messages. To accomplish this would indeed be a revolution with a vengeance.

These chronic rumors, which lately have appeared on the average about once a month, are due to stock-jobbing purposes; are wrought out of whole cloth, and have no foundation whatever either in truth or in intelligence. Any feeling of unrest that an operator may experience over these utterances should be promptly banished. The occupation of the telegraph operator has not gone yet.

EARLY DAYS OF THE TELEGRAPH.

BY S. B. GIFFORD.

The first exhibition of the electro-magnetic telegraph was given in a series of lectures by Prof. Boynton, a public lecturer and resident of Syracuse, in 1845, in the fourth floor of the main office building in Syracuse, which was then called Library Hall. These exhibitions were repeated in other places in central and western New York and aroused great interest in the new invention.

The business men of Utica, Syracuse and Rochester took steps the following summer toward the organization of a company to build a line along the railroad from Buffalo to Albany and Springfield, Albany and New York at that time being without railroad connection. Connection was to be made at Springfield with a line projected from New York to Boston. The business men of New York City did not receive the project with great enthusiasm, although Crawford Livingston, of New York, an associate of the Utica promoters in other business enterprises, was a stockholder and director.

In September of 1845, at the State Fair at Utica, a line about one mile in length was built by Orrin S. Wood and operated during the week of the fair. Mr. Wood subsequently had charge of the construction of an exhibition line from Buffalo to Lockport, which is said to have been the first line opened to the public in America. This was early in November, 1845. The first message transmitted over a completed circuit was between Baltimore and Washington, May 24, 1844. This was an experimental line.

In the meantime the Utica organization was perfected, with Theodore S. Faxton, John Butterfield and Hiram Greenman, of Utica; John Wilkinson, of Syracuse; Thomas Y. How, Jr., of Auburn; Asa Sprague, of Rochester; Samuel F. B. Morse, of Poughkeepsie, and Crawford Livingston, of New York, directors. Mr. Faxton was elected president and treasurer and Messrs. Faxton, Butterfield and Wilkinson the executive committee.

The construction of the line was commenced soon after along the route from Utica toward Albany and plans made for an early start westward, Utica being midway between Springfield and Buffalo. The Springfield connection was abandoned and the line built to New York. Twenty-eight poles to the mile were placed and two copper wires were strung for a metallic circuit. The insulation was a glass knob on a wood pin.

Offices were established at Albany and Utica January 31, 1846. Syracuse, the third office, was opened May 1, being located in a small room upstairs in the Syracuse & Utica Railroad depot, or, as it was then called, car house, as the building stood over the tracks and extended the entire block from Salina to Warren streets, in the center of the business section. B. F. Partridge was the first operator and Edward C. Fellows, a lad of 12 years, the first messenger. Fellows became an operator and in 1863 was general superintendent of the United States Telegraph, but afterwards went into the railroad service and was general superin-

tendent of the Central Pacific Railroad at the time of his death in 1880.

Other offices were opened as the work of construction progressed, Buffalo being reached July 3 and New York September 9, on which date there were eight offices on the line, as follows: New York, Troy, Albany, Utica, Syracuse, Auburn, Rochester and Buffalo. Additional offices were established from time to time as they could be provided for.

The line crossed the Harlem river on a drawbridge at Third avenue, and whenever the bridge was opened to the passage of vessels the wires were disconnected. This interruption, sometimes lasting an hour or more in the midst of business, and without warning, was a serious drawback.

Newspaper service was started early, and even while Albany and Utica were the only offices, items of news from the New York papers and from the Legislature were transmitted to Utica, and soon after the completion of the line, the papers were allowed a stated time for the exclusive use of the wire, 2 to 3 for the evening and 6 to 7 for the morning edition.

Often the Harlem bridge would be open for a portion of the time, and occasionally for the entire hour that should have been devoted to the newspaper service; consequently the papers received an abridged report or none at all, as the order to give "30" at 3 and 7 o'clock respectively was imperative. Frequently the papers inland made the announcement under the regular heading "By Telegraph," "No report to-day. Bridge open."

The storms of the winter following the completion of the line were very destructive, the copper wire stretching to the ground on the long sections of nearly 200 feet. It having been demonstrated that iron could be used, the copper was sold and sufficient realized to pay for iron wire and the cost of putting it up. This wire was ungalvanized and No. 10 gage. The work of reconstruction was not completed until 1848. The insulation was gradually changed to glazed earthen caps on iron top pins and iron side hooks, which proved very unsatisfactory, and it was generally understood that in rainy weather each office, without waiting for special orders, was to open all the wires except No. 1, and then Albany often was obliged to repeat, and frequently Syracuse also. Indeed, there were times when New York was unable to work with Albany or Albany with Syracuse.

In 1847 a branch line from Syracuse to Oswego was built by private enterprise, but operated only during the season of lake and canal navigation for the first three years. In 1850 two opposition lines were built between New York, Albany and Buffalo. The Merchants', or O'Reilly line, with two galvanized wires, using the Bain instrument, and the New York State Printing Company, with two plain wires, and using the House instrument. The New York, Albany and Buffalo, popularly called the Morse line, put up a third iron wire the same year, but it did not increase the facilities to any extent until glass had been substituted for the earthen insulator.

The O'Reilly line, consisting of two wires from New York to Buffalo, one wire from Troy to Saratoga, and one wire from Syracuse to Oswego and Ogdensburg, was sold in February, 1854, to Mr. Faxton for \$50,000, and turned over to the New York, Albany and Buffalo Company, which company acquired the House line in August, 1856, thus removing all opposition and giving seven wires through the State, which condition of things continued until 1863, when the Morse patents expired and the United States Telegraph Company commenced operations. During the latter year the New York, Albany and Buffalo Company was consolidated into the Western Union, and on December 31 the former company ceased to exist.

The superintendents of the New York, Albany and Buffalo line were Orrin S. Wood, Samuel Porter, John A. Johnston, George E. Allen, Otis E. Wood, Frank H. Palmer and James D. Reid, the latter serving in that capacity about ten years.

Syracuse, owing to its geographical location, has always been an important office to the service, ranking fourth in the State in volume of business. This place has been the scene of many political gatherings, and on such occasions the office handled an immense quantity of press matter. The office was removed in 1847 from the railroad depot to a third story room near by, and the next fall to a second story rear room in a building opposite the present Western Union location, where it remained nearly eight years, then occupying for two years a store in Salina street, removing in February, 1857, to the building which has been its home ever since. In 1850, four years after the office was established, the business, including the relaying for Oswego and keeping the accounts of two lines, was done by the manager, who was also the operator and entire force, and often, in the absence of the messenger, he delivered messages as well.

The office managers at Syracuse have been B. F. Partridge, H. M. Merwin, John D. Stone, David L. Pike, William M. Mallett and the present incumbent, John E. Bierhardt, who assumed charge March 1, 1884.

John D. Stone entered the Auburn office when it was first opened as a student, went to Rochester in July and established the office at Schenectady in December, 1846, was transferred to Syracuse in March, 1848, remaining in charge of that office until August, 1868, more than twenty years, when he resigned to engage in other business. Mr. Stone is still living in Syracuse, at the age of 75.

It is an interesting fact that the village hall of 1845, in which the invention of Professor Morse was first placed on exhibition in Syracuse, became, half a century later, the operating department of the Western Union Company, with nearly 200 wires and employing nearly 125 persons in various capacities.—The Syracuse (N. Y.) Post-Standard.

The articles, "Some Points on Electricity," published regularly in TELEGRAPH AGE, are filled with practical information for the up-to-date operator. Send for a sample copy.

Publications.

- "PHILLIPS' CODE," by Walter P. Phillips, 9th edition, 69 pages. This unique and efficient guide for the transmission of press reports still maintains its great popularity; bound in flexible leather; price, \$1.
- "THE QUADRUPLEX," by Wm. Maver, Jr., and Minor M. Davis, 128 pages, 63 diagrams and other illustrations; treats of the technical side of telegraphy in a manner at once simple, comprehensive and easily understood; bound in cloth; price, \$1.50.
- "LIGHTNING FLASHES AND ELECTRIC DASHES," 160 pages, illustrated. An original and sparkling collection of telegraph stories, quaintly descriptive of scenes and incidents that a telegrapher will appreciate and heartily enjoy; bound in cloth; price, \$1, reduced from \$1.50.
- "AMERICAN TELEGRAPHY," by William Maver, Jr., enlarged and improved; 600 pages; 475 illustrations; clear, lucid and comprehensive in its treatment of the subject, the ranking work of its kind, and of high practical value to every telegrapher; bound in cloth; price, \$3.50.
- "TELEGRAPHERS OF TO-DAY," by John B. Taltavall, 354 pages. This volume, of which but a few copies of the first edition now remain, presents a compendium of illustrated life sketches of over 800 well-known telegraphers who have been prominently identified with the telegraph during the past fifty years; bound in cloth; price, \$5.
- "POCKET EDITION OF DIAGRAMS AND HANDBOOK FOR TELEGRAPH ENGINEERS," by Willis H. Jones, 115 pages. 54 full-page diagrams. This book places before the telegrapher a pocket edition of diagrams designed to take the place of the incomplete drawings which nearly every chief operator, lineman and student carries; bound in flexible imitation leather; price, \$1.
- "THE TELEGRAPH IN AMERICA," by James D. Reid, 894 pages, illustrated. This book is of marked interest and worth, inasmuch as it contains telegraphic records of great historical value, not to be found elsewhere. There are only a limited number of volumes of this great work now available; bound in full morocco; price, \$7.

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

The American Institute of Electrical Engineers held the first conversazione in its history at Columbia University, New York, April 12. Both in the character of the scientific apparatus exhibited and in its social features the occasion was one of great interest. Upward of a thousand persons were present, fully half being invited guests. Several notable exhibits were made, among them Prof. M. I. Pupin's device for the improvement of telephony, the Poulson recording telephone and H. R. Palmer's fac simile picture telegraph.

The New President of the Telegraphers' Aid Society.

Henry W. Sauer, who, on March 27, was elected president of The New York Telegraphers' Aid Society, is a member of the Western Union force at 195 Broadway, New York. Mr. Sauer was born in the city of New York on December 10, 1858. His first connection with the telegraph was when as a lad of twelve he became a messenger in a local branch office. After a service of two years with the American District Telegraph Company, from the date of its organization in 1872, he found employment with the Western Union Company, then located at 145 Broadway. Here he soon developed into a very capable operator, and from 1876 onward he at different times acceptably filled the responsible position of manager of several important city branch offices, besides the management of offices connected with suburban race tracks. In 1884 he resigned from the telegraph service to engage in



MR HENRY W. SAUER,
President of the New York Telegraphers' Aid Society.

other business. Like many another operator, however, telegraphy had a peculiar fascination for him, and after an absence of four years he returned once more to the key, again with the Western Union Company. Shortly after his return to 195 Broadway he was appointed a traffic chief, a position he was subsequently obliged to resign on account of ill health. Mr. Sauer is a first-class press and commercial operator, and is well and favorably known to the fraternity.

It is related of Mr. Sauer that once, while on a southern trip, a smash-up occurred at night to the train on which he was journeying, resulting in loss of life and injury to many passengers. A short distance from the point of accident there was a small railroad station in which was located the usual telegraph office, but all were closed for the night. Into this building Mr. Sauer effected an entrance, and, cutting in on the wires, called up

the dispatcher's office, explained the situation, and soon a wrecking train and an extra passenger relief train were sent to the scene of disaster. For this action Mr. Sauer received the thanks of the railroad company.

A New Telegraph Office at Baltimore.

The Postal Telegraph-Cable office at Baltimore, Md., was moved during March from the corner of Baltimore and Holliday streets to the fine Continental Trust Building at Baltimore and Calvert streets. This is a new structure, the tallest in the city, being fourteen stories in height. The receiving and delivery departments, the managers' and other offices, are all conveniently located on the ground floor, while the operating room is on the twelfth floor, the two being connected by two pneumatic tubes. Speaking connection is also had by means of an interior telephone service. The entire removal from the old to the new quarters was effected inside of twenty days, which is a record-breaking time for transferring so large a telegraph plant. The work was done under the supervision of Superintendent of Construction W. H. McCullum and Chief Carpenter W. H. Begg, of New York; Chief Operator C. A. Stimpson, of Philadelphia, and Manager F. A. Grasty and Chief Operator S. L. Dickson, of Baltimore. The final transfer was made at midnight on March 26, without a hitch of any kind occurring, every wire testing out O. K.

Magnetic Club Meeting.

The Magnetic Club, of New York, Francis W. Jones, president, will hold its spring meeting at the St. Denis Hotel, Broadway and Eleventh street, New York, on Thursday evening, April 25. Dinner will be served at 6.30 o'clock. The entertainment committee, which is composed of Messrs. Marston R. Cockey, chairman; George F. Fagan and T. A. Brooks, have in view the presentation of a choice selection of song and story, and the affair promises in every way to maintain the record of previous meetings. These quarterly dinners are always eagerly looked forward to by members as affording a delightful occasion of reunion and recreation. The following gentlemen are on the committee of reception: Charles P. Bruch, chairman; R. E. Fagan, John Brant, D. W. McAneeny and Theo. L. Cuyler, Jr. Mr. R. J. Murphy, 195 Broadway, New York, is secretary of the club.

The Bunnell Telegraphic and Electrical Company, 110-116 Beekman street, New York, have issued a new catalogue. It is a well arranged pamphlet of over 220 pages, containing full descriptive and illustrated references to the full line of telegraph and electrical goods manufactured and dealt in by this house. When it is said that nearly 900 cuts are used in the work, an idea will be conveyed of how thoroughly its compilation has been accomplished. The volume is carefully indexed, and the trade will find it an exceedingly convenient and useful handbook of reference.

Next Meeting of the Old Time Telegraphers and Military Telegraph Corps.

It was thought probable that the next joint meeting of the Old Time Telegraphers' Association and the United States Military Telegraph Corps, which is to be held this year at Montreal, Que., would be during the first week in September, but owing to inability to secure proper hotel accommodations at that time, the dates of meeting now definitely fixed upon, and of which announcement is now made, are for Wednesday, Thursday and Friday, September 11, 12 and 13, respectively.

The convention headquarters for both associations will be at the Windsor Hotel, the finest hostelry in Montreal. Here the meetings will be held, and here also accommodations may be obtained for all who desire to make this hotel their stopping place. President L. B. McFarlane, of the Old Timers, whose home is in Montreal, has made this question of hotel selection a personal matter, and has attended to all items of detail in connection therewith, for he is determined that nothing shall occur to mar the harmony of these arrangements, so important to the comfort and welfare of visiting members. Both he and Vice-President J. E. Hutcheson, of Ottawa, are anxious that this first meeting on foreign soil shall be in every way a worthy successor to those of its predecessors; they have been very earnest in their efforts and are working heartily together to secure this end in view. It is of course too early yet to make any announcement of committees or any plan of entertainment, but in due season full information will be published.

Mr. John Brant, of 195 Broadway, New York, the secretary-treasurer of the Old Timers, states that already, since the last meeting in September at St. Paul and Minneapolis, the names of one hundred and twenty new members to this association have been enrolled. It is expected that this number will be largely increased. Those desirous to join should lose no time in communicating with Mr. Brant on the subject.

Canadian Telegraphs.

In 1847 the Montreal Telegraph Company was organized at Montreal, Que., with a capital of \$60,000. Andrew Shaw was elected president and O. S. Wood, the first pupil of Professor Morse, the inventor, and brother-in-law of Ezra Cornell, the founder of Cornell University, was appointed superintendent. At the close of the first year, the Montreal Telegraph Company had 540 miles of wire strung and managed nine offices. Numerous small telegraph ventures followed Canada's first line, but for various reasons they were not successful, and were swallowed up eventually by the older company. In 1851 Sir Hugh Allan became president. The company gradually increased its scope, but in 1868 a formidable competitor arose in the Dominion Telegraph Company, under the management of Mr. C. R. Hosmer. Afterward these two systems were amalgamated under the name of

the Great Northwestern Telegraph Company, with Mr. H. P. Dwight as president and general manager. This company, together with the Canadian Pacific Railway Company's Telegraphs (the latter company being a part of the Canadian Pacific Railroad system), control the Canadian business. The principal commercial offices of both these companies are very naturally in Montreal, which, as a matter of fact, is the telegraphic center of Canada.

The telegraph business of Canada from Quebec westward is in the hands of the Great Northwestern Telegraph Company and the telegraph lines of the Canadian Pacific Railway Company, while in the Maritime Provinces it is transacted by the Western Union Telegraph Company and the Canadian Pacific Railway Company.

The Canadian Government owns 2,751 miles of land lines and 240 miles of cables, making a total line mileage of 2,991. The yearly average number of messages sent is 44,400. The greater part of this service is connected with the Marine and Fisheries Department of the Federal Government.

Much of this service is operated at a loss, still it could not be dispensed with without resulting in great injury to shipping and fishing interests.

English Telegraph Dowries.

A question put in the English House of Commons lately to the Government has elicited the curious and interesting fact that the Postmaster-General encourages matrimony among women employees of his department by giving them marriage portions. As much as \$50,000 has been given away in this manner in a single year.

Women enter the Government Postal Service, mostly as telegraph operators, at an average age of 16. By the terms of the Treasury minute regulating the compassionate allowance scheme, as it is officially and quaintly called, a woman is entitled to the allowance after six years of service; that is to say, she has reached the eminently marriageable age of 22 when she is first entitled to her dowry from the State.

For each year of service she can ask one month's pay, but in that matter of pay the benevolent and fatherly State is not wildly extravagant. At the end of a woman's sixth year of service, when she is at her very best as a telegrapher, she probably receives no more than \$25 a month, so that if she should marry forthwith, her compassionate allowance would amount to just \$150. If that same young woman should wait until she was 28, she would then be entitled to twelve months' pay, or the maximum amount of allowance, whichever worked out to the smaller sum, the official maximum of benevolence being \$400.

As a matter of fact, the average amount paid has been found in practice to be about \$200, and there is no reason to believe that it has any direct bearing upon the marriage rate among female civil servants, who, as a rule, do not take husbands who are able to support them in comfort. The majority of these young women marry outside the civil service, their male colleagues being unable to afford the luxury of a wife until they are about 35.

The origin of the marriage portion or compassionate allowance is somewhat curious. About seven years ago it occurred to somebody in power that it would be a good thing if he could manage to provide for his poor female relations at the expense of the State. The idea found favor in high quarters, and forthwith the Treasury by administrative decree created a new class of female civil servants, designated "female typist." Appointments were made by nomination instead of by open competitive examination. It was foreseen that the women to fill these posts would come from a somewhat superior social stratum, and would in all probability marry after about six years' service, and in order still further to help the poor relations the compassionate allowance regulation was instituted.

There was not the slightest intention to extend this State benevolence to the civil service generally. It was avowedly to be confined to the "female typists," otherwise poor relations. But ere long the women telegraphers heard of the comfortable little arrangement, and forthwith began agitating in order that its benefits might be extended to them. It took less than six months to convert the Treasury, which is a record in civil service agitation in that country. They were quick to note that the aristocrats were nervous lest their poor-relations scheme should be exposed to the unsympathetic attention of commoner folk with similar encumbrances, and by working on this line they soon obtained the full concession of their demands.

Incidentally the concession of the marriage portion or compassionate allowance to the women had a curious effect upon another civil service agitation, that relating to pensions and superannuation. In the British civil service only thirty per cent. of the pensionable officers reach the pension stage of sixty years of age or forty years' service, whichever occurs first. The remaining seventy per cent. retire earlier or die in harness.

Now, it has been repeatedly declared by the highest Treasury authorities that in order to provide a pension fund civil servants are paid from sixteen to twenty per cent. below their value in the open market of labor; that is to say in effect that the pension is really deferred pay. But under the present system the pension is paid only to the retired officer, and during his lifetime. A man might die in harness after serving the State for thirty-nine years and eleven months, and his widow would get nothing whatever.

Such cases do, in fact, frequently occur, with lamentable distress and gross injustice to those least able to help themselves. The civil servants demand that as the principle of deferred pay has been recognized in the case of women retiring to get married, it ought to be applied in the much more deserving cases of the widows, orphans or dependents of men dying in harness; that pensions should either continue to such dependents, as in the case of army officers, or that the accumulated deferred pay should be paid over to them.

Six years have elapsed since the civil servants formulated their demands in a gigantic petition to

the First Lord of the Treasury, but so far they have not been rewarded with the slightest success. Their organization, however, is a very strong one. At the general election last autumn they secured promises of support from two-thirds of the men then elected to the House of Commons, and they have good reason therefore to hope that their triumph over the forces of bureaucracy cannot much longer be delayed.

AULD LANG SYNE.

BY B. S. PILLOW.

"Say, if you can get hold of Joe, tell him old man Pillow says there is a vacancy at 'Bm': he might want it."

Well, I like that: "Old man Pillow!" And I had been deluding myself with the idea that I was still "one of the boys." Really, that remark, heard in a moment of leisure, on No. 5, set me to thinking. Am I looked upon as "the old man?" Yea, verily; and not altogether without cause.

Age had not, it is true, frosted my hair, nor the passing years abated by strength, but memory carried me back to days agone, and I had to admit that I was on the down hill of life.

Away back in '63 the writer began his career in Petersburg, Va., as messenger, and in idle hours attempted to master the mystery of dots and dashes. That he achieved some little success was evidenced early in '64, by the manager sending him to Ivor station, then the terminus of the Norfolk and Petersburg Railroad, to temporarily relieve the military operator there who had been called to Alabama by his father's death.

That was a great day for me. To receive the congratulations of my fellow messengers, and observe just a trace of envy among them, were things not to be despised. For, be it known, operators in those days were not so common as later on, and aspired to amount to something.

Provided with a pass to my destination, and wearing an important air, the writer boarded the train. Soon the conductor came around. With assumed indifference my pass was handed over.

"Ah, a telegraph operator!" said the ticket gatherer.

"Yes, sir," and mentally classing him as a man of remarkably fine perception, I leaned back in my seat to enjoy the ride before me.

In due time we pulled into Ivor, where I was met by the regular man, who, after giving me a few hasty directions, the most important of which was to allow no soldier to sleep in the battery room, jumped aboard the returning train and left me in full charge.

Then the awful loneliness that came over me! Not a person whom I knew, and though there was a regiment of troops stationed there, they did not take the place of the jolly boys from whom I had parted a few hours previous. Whether 'twere better to be an operator in Ivor or a messenger in Petersburg was the question; and there were arguments on the one side as well as on the other. However, business must be attended to, so I took hold and held

down till noon, when the commissary sergeant, a jolly fellow by the name of Wingfield, came over and informed me that I had been assigned to his mess.

This man soon cheered me up wonderfully, and to-day, if I should meet him, I should lift my hat to one of those true souls who didn't think it unbecoming in a full-grown man to sympathize with a boy away from home for the first time.

For the first few days the monotony in that camp was something to think of, but not to be sought. True, we had a cock fight one day, and even went so far as to plan a fishing excursion for the next. But we didn't go. Not by a good deal. We had other fish to fry, for on the next day General Ben Butler began a series of entertainments in our immediate neighborhood. The General hadn't been invited, to my knowledge, but he was on his way, nevertheless. By way of diversion he dispatched five thousand men to capture Ivor Station. What he wanted with it is one of the unsolved mysteries.

Just at daylight the following morning an orderly dashed into my office, which, by the way, was also my sleeping apartment, and informed me that we were on the point of evacuating the town. As we had only about three hundred men and two guns I have always admired the discretion of Colonel Ratcliffe in retiring before the five thousand. But the redoubtable old Carolinian was not panic-stricken by a great deal, and announced that if we were pressed he intended to make a stand at a creek about seven miles away. This was regarded by one fellow as a good joke, but others of us who knew the mettle of our leader were anxious enough to get away from that creek, for we knew that if we were "pressed" the doughty Ratcliffe would "make a stand," and that meant bloodshed and certain defeat by the overwhelming numbers at our heels.

Just one day previous our mess had drawn rations for a week; among those coming to me was a fine eight-pound Southampton ham. Think of that, ye ragged rebels, and wearers of the blue! A juicy, uncut ham! Along in '64 rations were rations, to us rebels, at any rate. Hard tack, musty bacon, a few beans or peas, sometimes only parched corn, formed the bill of fare of our gallant boys, while the sight of a field of roasting ears made the blood tingle and the heart grow light.

Under these circumstances, judge of my feelings when I found that no place could be found for transporting my ham! Too bulky for a haversack and too unwieldy to be carried in the hand. Truly, the situation was grave—no, that's not the word; gravity doesn't express it; it was simply appalling. Finally I was forced to leave it with our cook, Mandy, and I fancy that her grief in bidding us farewell was somewhat mitigated by my grudgingly bestowed token. In a long and varied experience the writer has met many "hams" since that fateful day, but from none of them has he parted with such poignant feelings as were his in bidding adieu to that choice Southampton product.

Before leaving Petersburg some patriotic chap—whose name has escaped me—told me that to lose my instruments while at the front was equivalent to

the loss of the regimental flag. From that good hour which witnessed the beginning of our retreat I have looked for that enthusiast. I have somewhat to say to him. I wish to use expressions which he will understand. In a word, I desire to unburden myself. The instruments with which my office was equipped consisted of a relay, broad and bulky, and a register, both mounted on a *marble* base; old time abominations, the recollections of which, even at this late day, send shudders through my anatomy. They, together, must have weighed twenty pounds. Think of that! Lugging those old rattle-traps on a march of about four miles an hour, with five thousand blood-thirsty Yankees in our rear! I have a vivid remembrance of being tempted to drop them in the creek as we marched over a rickety bridge, and but for the remark of that would-be friend should certainly have done so.

On setting out we had been told that our destination was Weldon, N. C., a trifling march of only about seventy miles. Encouraging, wasn't it? After making about eighteen miles by eleven o'clock, however, we were overtaken by a courier from General Beauregard, ordering the regiment to a point ten miles from Ivor, where a train would be waiting to convey us to Petersburg. Ah, General Beauregard was a great soldier; and, furthermore, he employed the very best of couriers. We took our hats off to the orderly and blessed the General.

No time was lost, as we right obliqued, and by 2 P. M. we were on the train, the writer about used up, but cheerful over the improved conditions.

By 6 o'clock we saw the spires of the Cockade City, and the next morning the embryo operator was down at the office relating his experiences, with that strict adherence to facts for which he is noted, but which were received by the office boys with a liberal allowance.

Once an operator, I, of course, did not resume my duties as messenger, and in a day or two was ordered—but the story is already too long.

PACIFIC CABLE.—A contract for a cable steamer larger than any ever built has been let to an English firm. It will take 10,000 tons of cable for the stretch from Victoria, B. C., to the Fiji Islands, and this is a larger amount of cable than any steamer afloat can carry. Surveys are now being made for proper landing places for the British Pacific cable on the British Columbia shore, and no doubt Sandy Beach will be selected as it has been proven to be an ideal spot for the purpose. Mr. R. E. Peake, a member of the firm of Clarke, Forde & Taylor, a well-known firm of telegraph engineers, of London, England, has charge of this survey. The contract for laying the cable, involving an expenditure of £1,795,000, calls for its completion next year.

Every telegrapher who loves his profession, who is determined to master its technicalities, and thus insure for himself the confidence and respect of his official superiors and place himself in the direct line of promotion, should subscribe for TELEGRAPH AGE.

Letters From Our Agents.

SAN FRANCISCO, CAL., WESTERN UNION.

The recent enlarging of the operating room and the great number of new faces, makes this office appear almost like another place.

Arrivals: Messrs. Tehan, Higgins, Davie, Thornton, Cooper, Goodwin, Moore, Wulzen and Mitchell.

Sick list: Messrs. Dorgan, Lowell and Rood.

Races at Tan Foran and Oakland tracks, occurring at the same time, took quite a force of operators, and the regulars as well as the extras were made happy by having as much extra as they cared for.

Mr. Charles Weiler has returned from Reno, Nev., where he went in December last.

Mr. Hugh Holmes has been at Bakersfield for several months.

Messrs. Harry Simon and Frank Ford are holding the Oakland track race wire service down, while Mr. Peppin and Mr. Charles House are at Tan Foran.

Mr. W. H. Wilson, of Reno, was in town a few days since on a short visit.

Mr. Charles Myers is manager of the new office opened near the Presidio.

Messrs. McCandlish and Summerl have returned from Sacramento.

The recent blizzards in the East made very lively times in this office. Two Wheatstone wires were run day and night, and all who could took a hand in copying tape. This office is developing some very expert combination men, who can work their set on short circuit, sending tape as well as when the wire is o. k.

Traffic Chief Charles Willoughby leaves for a visit to his parents near Chicago on April 8. He will also visit the Buffalo Exposition and New York.

Mr. Robert Weeks now walks the floor and looks out for the Chicago and Los Angeles wires with the same business-like air that he has displayed for years in working the heaviest wires in the office.

Miss Viola Yoakum, a Wheatstone operator in this office, died suddenly from blood poisoning, occasioned by vaccination. She worked up to within thirty hours of her death, and no fears were felt that it would prove fatal. She was a general favorite and her death cast a gloom over the entire office. An appropriate floral tribute was procured by the force, and a large number of friends attended the funeral.

Mr. Charles Berg, formerly of the Western Union office, is taking night report at Santa Barbara.

LOUISVILLE, KY., POSTAL.

On the first day of January, 1891, the Postal Telegraph-Cable Company made its first appearance into Louisville, locating on the southeast corner of Third and Main streets. Mr. Philip H. Cooke, at that time wire chief for the Western Union in this city, and former manager of the old Mutual Union, became manager, assisted by Mr.

John H. Miller, as day chief; Mr. Frank Books, night chief; Mr. O. W. Krider, operator, and Mr. Benjamin W. Ditsler as counter and delivery clerk.

The Postal Company was exceedingly fortunate in securing Mr. Cooke as manager, as under his efficient direction the interests of the company have been so ably managed that business increased rapidly, and it is due to his untiring zeal and energy that the Postal has become so popular among the business interests of Louisville.

The rapid increase in business was met by a continual increase of facilities and force, until to-day the Postal in Louisville has one of the best equipped offices in the South. Besides Mr. Cooke, the personnel of the office at present is as follows: Richard Hewitt, cashier; Roy C. Freeman, clerk; Benjamin W. Ditsler, delivery clerk, with L. A. Pelton as assistant; Samuel Smith, night delivery clerk; Frank L. Parks and Harry A. Weaver, check clerks. The operating room is in charge of our congenial chief, O. W. Krider, assisted by A. L. Fogg and L. W. Janes, night chief. Operators: John H. Miller, James J. Clary, Frank J. Welsh, M. L. Wilson, James Carter, H. W. Mayhall, John Beninger, J. J. Quinn, Joseph Dunigan, T. J. Gray and J. A. Cahoe; J. D. Holland at the Courier Journal, and F. E. Books, extra. Branch office operators: James Stucker, Alvin Silverman, C. A. Cuneo, R. C. Rogers and P. W. Robertson. Philip Cochran is head lineman, with Albert Krider, assistant.

SOUTHERN PACIFIC TELEGRAPH SYSTEM.

The Coast Division of the Southern Pacific is having quite a boom since through trains are run over this line to Los Angeles. About twenty-five night offices have been established, and a large addition to the dispatching force at Third and Townsend streets. This will be one of the busiest divisions of the system in the near future.

Mr. J. B. Donner, superintendent of telegraph, Southern Pacific Railroad, has been confined to his home with grip for several weeks.

ST. LOUIS, MO., WESTERN UNION.

About three hundred 185-ohm special resistance lamps are being put in on our switch and loop boards, under the supervision of Messrs. L. N. Boone, assistant wire chief, and Michael Houlihan, lineman.

Mr. A. E. Van Tyne, our wire chief, spent March 21 and 22 at Moberly, Mo., putting in repeaters.

Messrs. Herman Weyerman and George J. Goehringer returned from Jefferson City, Mo., March 23. They were assisting during the session of the Legislature and have become quite expert lobbyists. They introduced a bill abolishing fast senders, but it failed to pass.

Mr. Geo. Monteith resigned recently to accept a position with the Boyd Commercial Company, of this city.

Miss Kate Reilly, of the Wheatstone, resigned March 27, and left for Chicago.

Mr. T. W. Thielan, of Chicago, was a visitor recently, being on his way home from Red Bud, Ill., where he attended the funeral of his father.

The following was overheard at the desk of the force chief, recently: "Can you take Denver?" "You bet your sweet life I can," replied the operator "if there is a key to it; just give me a key and I'll work any wire you mention!"

MILWAUKEE, WIS., WESTERN UNION.

The following resolutions on the death of E. M. Shape, whose death occurred on March 21, and who was chief operator of this office for more than thirty years, were recently adopted by his fellow employees:

Whereas, Through an overruling Providence, E. M. Shape, a person especially recognized and admired for his rugged and sterling integrity, and for his high appreciation of the moral obligations existing between man, has been suddenly removed from our midst; and

Whereas, During his long and honorable career in the city of Milwaukee, Wis., he has served as chief operator of the Western Union Telegraph Company with such fidelity and marked ability as to guard well the best interests of all concerned, and to reflect great credit and honor upon himself; therefore be it

Resolved, By the undersigned co-employees and friends, that in his death they have lost a valuable, honest and noble friend, whose record in official and private life was without blemish, and whose service was of the most valuable character.

Resolved, That we tender to the bereaved family of the honored dead our most earnest expression of sympathy, assuring them that we all mourn with them the loss of one so universally respected.

BALTIMORE, MD., WESTERN UNION.

Among late changes are the following: Resignations: John Fitzpatrick, to The Associated Press; Charles Crudden, manager dry goods district, to a clothing firm at Lancaster, Pa; Harry Goldberg, to a broker office; William Daley and J. A. Burt. Edward Hanlon and William Moore have been transferred from branch offices to the main office. Mr. Spencer Kendall, clerk, has been appointed manager at McElderry's Wharf office. Addition to extra force: Miss Mary Gaffey, late of Philadelphia. Recent visitors: F. D. Cudlipp, Richmond, Va., and Mr. Harvey, formerly operator at Fort McHenry, who has just returned from two years' service in Porto Rico.

KANSAS CITY, MO., POSTAL.

Mr. Clyde Forcey, late manager for this company at Sedalia, Mo., is a new arrival and has been assigned to a branch office in the broker district.

Mr. Claude Reed has resigned to accept a better position with the Western Union, this city.

Operators Washington Summers and Clyde Edwards, on the first St. Louis wire, some days ago handled 920 messages. Operator Summers, the following day, received 140 messages in two hours. Of course, this doesn't break any records, but it's not so slow.

Mr. Emmett Gordon, manager at Sedalia, who was sent to Jefferson City to help out during the session of the Missouri Legislature, has returned to Sedalia.

CHICAGO, ILL., WESTERN UNION.

Much pleasure is expressed at the news from G. F. Bassett, who is very popular in this office, of the recovery of his little daughter from an attack of scarlet fever.

Mr. Barney White, who has been very ill, is again at the key.

Mr. Marcus W. Smith, an old-time Chicago telegrapher, died of appendicitis March 28. His widow has much sympathy from all.

Mr. E. Moffitt, manager of the Rockford, Ill., office, and Mr. H. F. White, manager at Elgin, Ill., were recent visitors here.

Mrs. Ames has returned to the office after a long winter's rest.

Mr. Samuel Weller, the gallant signal corps officer, has received congratulations from all because of the birth of a son to him.

A lineman sent a message to his general foreman as follows: "Transferred seven miles of wire, trimmed trees and got married to-day." Surely he did his duty for one day at least.

Mr. F. E. Abbott, who works the first St. Paul wire, met with a very bad accident recently as he was boarding the train at his home in Maywood, Ill., receiving injuries to his right foot, which necessitated the amputation of the large toe. He has the sympathy of all the fraternity.

Superintendent F. H. Tubbs and party attended the funeral of the late Chief Operator E. M. Shape, of Milwaukee. They occupied a special car furnished by the Chicago, Milwaukee and St. Paul road. Those present were F. H. Tubbs, superintendent; W. J. Lloyd, assistant superintendent; Frank Richardson, traffic chief; D. S. Anderson and wife, E. G. Sheckler and wife, J. F. Robinson, foreman of lines; W. B. Paddock, Frank Likes, Benj. Powell, Jas. A. Cummins, Chas. F. Fuhrman and Assistant Chief Operator Powell, of The Associated Press. Among the operators were: M. M. McCulloch, J. S. Henderson, J. W. Campion and others.

New arrivals: W. F. Callendar and I. P. Dieffenderfer.

PHILADELPHIA, PA., POSTAL.

The severe illness of Cashier George G. Glenn's brother, at Harrisburg, Pa., necessitated a speedy trip by the former to that place. The crisis, however, was safely passed and the patient is in a fair way to recovery.

Mr. W. B. Burt has been transferred to the South Front street office in place of Mr. Wm. McIntyre, resigned.

Messrs. Chas. Koch and Frank Williams are both off on sick leave.

Quite a cheerful welcome greeted the return of Mr. Edward Addletown, who had been away quite a long time in the mountain district, accompanying his wife, who is an invalid.

Since the removal of the North American to their new building, Mr. H. Nauer has not had quite so much special work to look after at the "overflow" office in the second district American District Telegraph office.

You can't afford to be without TELEGRAPH AGE.

NEW YORK, POSTAL.

Mr. L. E. Harper, of the St. Louis bonus wire, is absent on account of illness.

Mr. Wilbur O. Eastlake, of the Evening Post Postal staff, has returned, after two weeks' absence occasioned by sickness.

Transfers: A. L. Ewing, from split trick to Buffalo bonus wire. City departments to Western Division: G. R. Knoess, Stephen Fitzgerald, D. D. Calvert. R. M. Sinclair from split trick to 8 A. M. Mr. B. F. Wilson assigned to Pittsburg bonus wire.

Resignations: W. I. Riker, of Pittsburg bonus wire, to engage in poultry business near his old home, Newton, N. J.; C. P. Monett and J. H. Fitzgerald, of western division, to take an extended vacation after a hard winter's work.

The Postal branches in the theater district are manned by the following efficient staffs under supervision of a general district manager: 1269 Broadway—J. F. Ellis, chief operator; B. J. Kearney and T. R. Harvey, operators; Wm. Miller, J. J. Pinkerton and F. Pesek, clerks. 14 West 27th street—J. J. Kelly, day operator; Wm. Wolf, night operator; W. Alexander and L. Mundy, clerks. Townsend Building, Broadway and 25th street—Miss E. K. Buckner, operator. Presbyterian Building, 5th avenue and 20th street—Miss Marshall, operator. 276 8th avenue—Mr. O. Whitbeck, operator.

NEW YORK, WESTERN UNION.

At the first monthly meeting of the newly elected Executive Committee of the New York Telegraphers' Aid Society, held at 195 Broadway, April 4, President Sauer in the chair, announced the following committees for the ensuing year: Membership—H. W. Sauer, E. E. Brannin, T. M. Brennan, A. J. Gilman, M. F. Gaffney, J. Gschwind and Miss S. Dougherty. Printing—Geo. Levcene, R. C. McDonald, W. W. Price, J. McParlan and E. T. Dempsey. Relief—E. F. Howell, C. Shirley and Miss A. McShea. Trustees—T. M. Brennan, J. K. Calvert and J. C. Robinson. After disposing of routine business the president nominated William J. Quinn for financial secretary and Horace C. Fardon for recording secretary. Both gentlemen received the full vote of the committee present.

James Gilchrist, for many years operator and reporter on the floor of the New York Stock Exchange, died at his residence in this city on Friday, April 5. Mr. Gilchrist had been in poor health for some time, but remained at his post until a week before his death. His funeral, which took place on the 7th inst., was largely attended by the telegraph profession, among whom were: H. W. Sauer, E. G. Crammins, N. Seagrave, Wm. Egan, M. D. Medler, P. Cray, H. Clark, J. H. Hutchinson, J. S. Bennett, S. H. Mabie, J. J. Kihm, W. A. Henessy, F. P. Talbot and Wm. Lynch. Mr. Gilchrist leaves a wife and young daughter.

Dr. E. C. Potter, of Newark, N. J., an old time operator, was recently shown through the office, and, not having been in the business for twenty-five years, was amazed at the progress made since he left.

Mr. John Cleary, of the Commercial News department, has returned to duty after a month's sickness.

Miss Essie Bradshaw, of Meriden, Conn., and Miss Adelaide Burnham, of Unionville, Conn., were recent visitors.

Mr. John O'Connor, who has been away for several months acting as an editor for the Publishers' Syndicate, returned to duty at this office April 4.

Mr. Frank L. Gerber has returned from Jacksonville, Fla.

Mr. W. P. Brady was appointed day number clerk of the general operating department April 1.

April 1 Mr. L. B. Clark, our genial number clerk, was appointed an operator on the regular day force. Mr. Clark is a bright, courteous young gentleman and has the best wishes of his many friends.

Mr. J. M. Brannin, of Clark's department, resigned recently to enter other business at Washington, D. C.

On Sick Leave: Messrs. William Calvert, Perry Irish and Thomas T. Griffin.

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

Don't give to an agent; send for us. Repairs on typewriters expressed or sent in to shop at reduction, to operators. Second-hand machines low price. Supplies, word-counters, etc., \$2 up. Parts and attachments made. Wall & Butler, Typewriter Repairs, 57 Dey Street, New York. (Adv.)

BOSTON, MASS., POSTAL.

Mr. Joseph A. Coughlan has been appointed assistant night chief, vice F. M. Smith, who resigned to accept a position with this company in New York. Mr. T. Shannon has been assigned to Mr. Coughlan's position on the first New York wire, and C. E. Smith tries his hand at piece work.

\$100 Reward, \$100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages and that is Catarrh. Hall's Catarrh Cure is the only positive cure now known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer One Hundred Dollars for any case that it fails to cure. Send for list of testimonials.

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

Sold by druggists, 75c.

Hall's Family Pills are the best.

Chief Operator F. B. Travis is spending a week in New York, accompanied by Mrs. Travis. Night Chief C. J. Foley fills his place during his absence.

Mr. W. E. Hasty has been appointed manager at the Stock Exchange, vice C. W. Fernald, resigned, to go with a broker.

Mr. T. F. Sullivan has been appointed to the regular night force, and Mr. C. J. Sheehan goes on straight days.

Mr. J. D. McDonald has been assigned to the Chamber of Commerce office as acting manager, Mr. J. B. Clancy having been granted a leave of absence for six months to enable him to perform his official duties as State Senator.

Mr. R. P. Dow has been appointed operator at Merchants' Row office, relieving Mr. W. A. Connor, who goes on days at the main office.

W. S. Dickinson and C. J. O'Connor are new arrivals from the Western Union, this city.

CHICAGO, ILL., POSTAL.

The announcement of the marriage of Mr. John M. Biggins, of this office, in the April 1 issue, was an error. Mr. Biggins is still numbered with the eligibles.

ASSOCIATED PRESS NOTES.

Mr. E. Wells, of the Albany, N. Y., bureau, has been transferred to Newark, N. J., W. J. Gornery succeeding Mr. Wells at Albany.

Mr. P. O. Sullivan has been transferred from Newark, N. J., to the New York office, days.

Mr. W. L. Waugh has returned to service at New York, after a severe illness.

Messrs. H. Graham and S. Trautes, of New York, have resigned.

Mr. W. M. MacMahon has been appointed to the position resigned by Mr. Graham.

Mr. J. W. Fitzgerald has been appointed to a position in the Baltimore, Md., bureau, vice R. A. Lyons, transferred to the editorial department.

PHILADELPHIA, PA., WESTERN UNION.

The Aid Society's euchre, hop and banquet, held on the 10th inst., was one of the most successful affairs of the kind ever conducted by the telegraph fraternity in this city. There was a large attendance, all present being in evening dress, and the assemblage was in every respect a brilliant one.

Too much credit cannot be given to President Frank E. Maize, Chairman John A. Sisk and their assistants. Miss Grimley, Miss Golden and Miss Mintzer, of this office, and of the Committee of Arrangements, also deserve special mention for their active work in behalf of the affair.

Fifty prizes consisting of valuable and useful articles were awarded at the well patronized euchre.

President Maize with Mrs. Maize led the grand march. Mr. Virgie Hudgins was master of ceremonies, and acquitted himself admirably. The menu was an exceptionally fine one.

The handsome design for the outside cover of the programme was drawn by B. M. Langstroth, of this office. One side of the programme was embellished by an excellent likeness of President Maize. The dancing was much enjoyed. The list embraced eleven numbers, the selections being credited as follows: "73," "Maize," "Mecredy," "Western Union," "Postal," "Fire Alarm," "A. D. T.," "Long Distance," "Philadelphia Local," "Bell," "30."

H. Woerner, of this office, is located temporarily at Altoona, Pa., with Manager A. G. Strickland.

Night Manager J. P. MacLoraine has returned from Aiken, S. C., where he spent a month for the benefit of his health. Judging from his looks he seems to have thoroughly regained it.

On April 10 Mr. W. Vance Compton, Western Union manager at Chester, Pa., was married to Miss Margaretta Nelling Fairlamb, of Glen Olden, Pa. The AGE and many friends extend congratulations.

Much sympathy is expressed for J. A. Janney, of this office, in the loss of his daughter, who died recently of pneumonia. Miss Janney was just 22 years of age and well beloved by a large circle of friends.

Another bereaved fellow worker who has our sympathy is Mr. Gray, of the Philadelphia, Reading and Pottsville Telegraph Company, whose young wife died recently.

New Postal Office at Cleveland, Ohio.

The main office of the Postal Telegraph-Cable Company in Cleveland, O., has recently been moved from 170 Superior street to the Mercantile



PUBLIC LOBBY, POSTAL TELEGRAPH-CABLE CO., CLEVELAND, OHIO.

Bank Building, corner of Superior and Bank streets, for the purpose of affording the operators and clerks a better lighted and ventilated operating room, and also making the receiving and delivery departments more convenient to the majority of the patrons of the company.

The operating room, which is seventy-seven feet long and twenty-seven feet wide, is located on the sixth floor, with large adjacent rooms for the motor dynamos, storage and clerical work. The hand-

and three sextette operating tables, and a total of eighty, telegraph wires entering the office.

The machines for generating the electricity necessary to operate the wires, are Sprague Electric Company's motor dynamos, the motors being operated by electric light current from the street mains, and the dynamos supplying the currents to the apparatus.

The receiving and delivery departments are in the basement, which is one or two steps below the



OPERATING DEPARTMENT, POSTAL TELEGRAPH-CABLE COMPANY, CLEVELAND, OHIO.

some switch case contains two fifty-wire modern spring jack switchboards, besides spring jacks for city loops and legs, the whole being wired up as neatly as a pianoforte, and embracing the Skirrow removable cord plan, by which weights and festoons of idle cords under the shelf are obviated. A very convenient repeater table in front of the switch contains four quad sets, ten duplex sets, six half Morse repeater sets and twelve full Morse repeater sets. In the room are twenty quartette

street level, and are very handsomely fitted up. A pneumatic tube furnished by the Transfer Tube Company is operated by a reversible blower driven by an electric motor.

The whole equipment of this office is of the most modern character, designed to accelerate and safeguard the transmission of telegrams. It was carried out under the supervision of Electrician S. F. Jones, of the Electrical Engineer's Department, New York, assisted by Mr. T. W. Carroll, elec-

trician of the Western Division; Mr. C. W. Bennett, Mr. J. H. Hess and Mr. E. W. Carman, all of whom were ably supported by General Superintendent E. J. Nally, Superintendent of Construction C. M. Baker, Superintendent of District F. W. Conger and others.

It is not too much to say that this new telegraph office, for character of arrangement, wiring and disposition and kind of apparatus, stands at the head of any at home or abroad.

Mr. James H. Mason, electrician, 150 Nassau street, New York, has issued a "Catalogue of Educational Electricity Supplies." Reference is made more especially to goods of which Mr. Mason himself is the inventor, and there are a number of illustrations which show these to advantage.

M. D. SHAW FUND.—Amount previously acknowledged in our issue of February 16, \$66; from J. C. Watts, New York, \$6.50; total, \$72.50.

The Postal Telegraph-Cable Company has opened an office in Lynchburg, Va., with Mr. W. P. Buckley, late of Richmond, Va., as manager.

Information wanted of present whereabouts William S. Reniers, last heard from working for Hamilton Bros., Minneapolis, Minn., three years ago. If dead, please give place of death, with full particulars. J. J. A. Gilrain, Western Union Telegraph Co., Boston, Mass. (Adv.)

WANTED—The address of A. H. Reesc, formerly telegraph operator at Detroit. He is supposed to be in the West. Address W. H. Flynn, 760 Cass avenue, Detroit, Mich. (Adv.)

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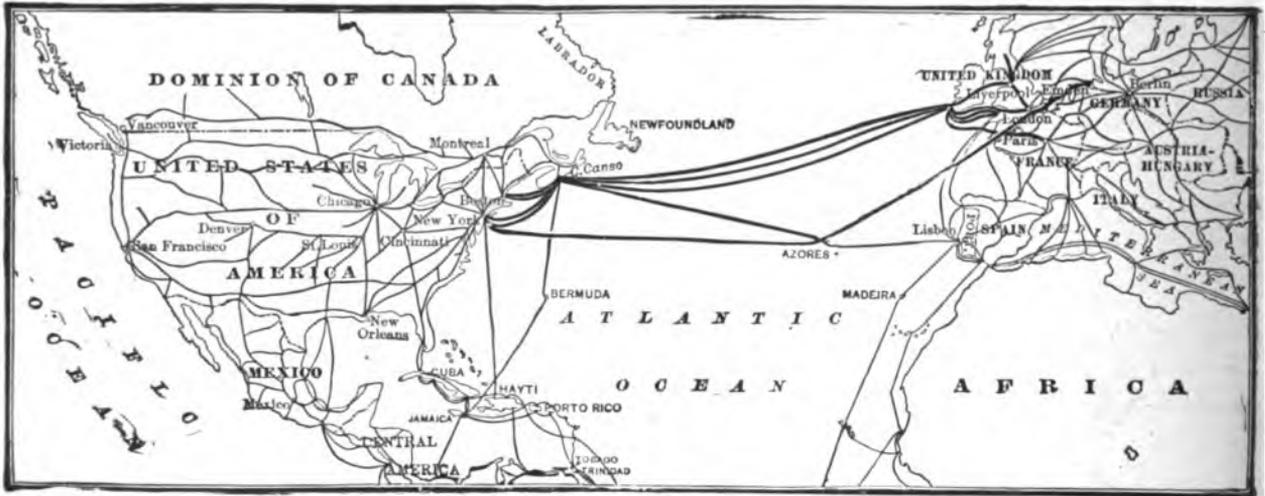


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