

# TELEGRAPH AGE.

A SEMI-MONTHLY JOURNAL DEVOTED TO TELEGRAPHY

Single Copies, 10 cts.

ESTABLISHED 1883.

\$1 50 per year.

Vol. XXIV—No. 5.

NEW YORK, MARCH 1, 1901.

Whole No. 427.



## NEW STANDARD DRY CELLS.

OF THE U. S. NAVY AND THE WORLD.

The price is as low as any; durability, FOUR to ONE over any other make. When you use them once you will want no other. NECKTIE PIN outfit by mail \$1.00.

**WILLIAM ROCHE,** Inventor and Sole Manfr.,  
42 Vesey St., New York.

**C**OPIES of every Electrical or Telegraph Book published can be obtained by addressing  
**TELEGRAPH AGE,**  
253 Broadway, New York.

1889.

PARIS EXPOSITION MEDAL FOR RUBBER INSULATION.



1893.

WORLD'S FAIR MEDAL FOR RUBBER INSULATION.

THE STANDARD FOR RUBBER INSULATION.  
SOLE MANUFACTURERS OF

**Okonite Wires, Okonite Tape, Manson Tape, Candee Weatherproof Wires.**

Write for prices.  
WILLARD L. CANDEE,  
H. DURANT CHEEVER, MANAGERS

THE OKONITE CO., LTD.

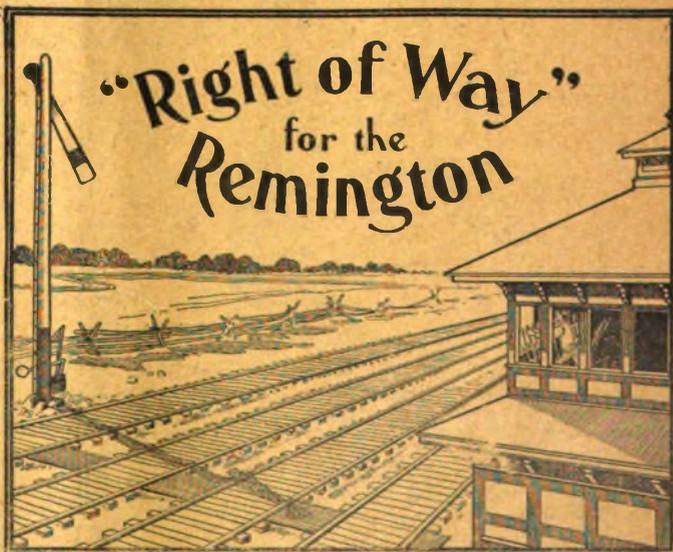
253 Broadway, New York.  
GEO. T. MANSON, GEN'L SUPT.  
W. H. HODGINS, Secy.

## Consider Facts Like These!

The Southern Pacific Company uses over 500 Remington Typewriters; many times more than all other makes combined.

84 per cent. of all the typewriters used by the great railroads of the country are Remingtons.

Our popular illustrated folder, "Right of Way for the Remington," containing full particulars, will be forwarded on request.



Reliability and adaptability to ALL classes of work are the qualities which make

## REMINGTON TYPEWRITERS

the standard everywhere

WYCKOFF, SEAMANS & BENEDICT,

327 BROADWAY, NEW YORK

# THE MONTAUK MULTIPHASE CABLE

IS A FIRE AND BURGLAR DETECTIVE WHICH NEVER SLEEPS,

And therefore gives greater security than you could have by placing a human detective in every closet in every room of your house. By its use, the ordinary electric service wires of a building become also a

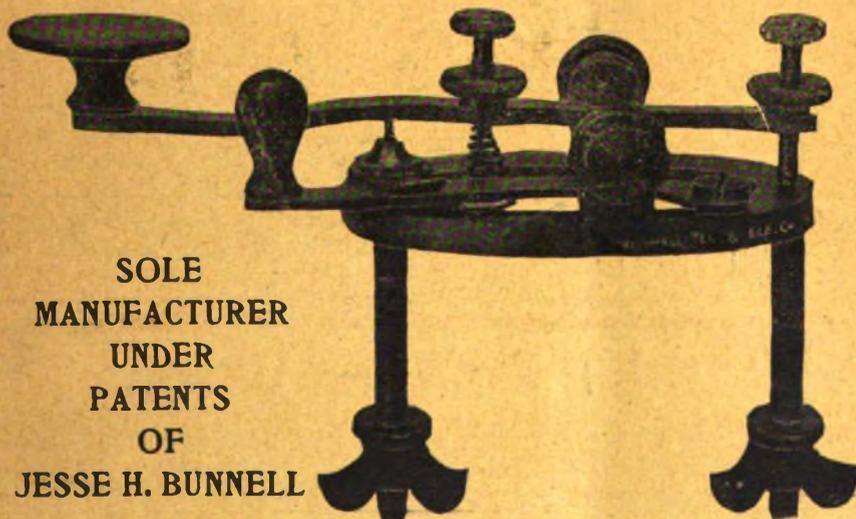


fire detective force. Values are cared for, lives are saved, business interruptions prevented and ease of mind and sense of security are given without additional cost of operation or maintenance.

THE MONTAUK MULTIPHASE CABLE COMPANY,  
100 BROADWAY, NEW YORK.

## THE BUNNELL TELEGRAPHIC AND ELECTRICAL CO.

110, 112, 114 and 116 Beekman Street, New York City



SOLE MANUFACTURER UNDER PATENTS OF JESSE H. BUNNELL

We Manufacture TELEGRAPH, TELEPHONE, ELECTRICAL and RAILWAY SUPPLIES.

SEND FOR PRICES.

Catalogues and Learner's Manual Free on Application.

We do not pay Express Charges.

STEEL LEVER KEY (WITH LEGS), 90c.

## DYNAMOTORS FOR TELEGRAPH WORK

The Lundell Motor-Generators used in telegraph offices are of the highest degree of excellence. Non-sparking, compact and reliable. They have self-oiling bearings, perfect insulation, evenness of current and good regulation of voltage, and are made in various sizes with speeds and voltages to suit all conditions of work. Correspondence invited.

SPRAGUE ELECTRIC COMPANY,

NEW YORK.

CHICAGO.

BOSTON.

ST. LOUIS.

BALTIMORE.

TRADE MARK  
**"Chloride Accumulator"**

REGISTERED SEPTEMBER 11, 1904.

Over 25,000 Cells are in Operation by the Western Union, Postal, Gamewell, and other Companies.

**CHLORIDE ACCUMULATORS FOR TELEGRAPH SERVICE.**

Smaller first cost and smaller interest charges.  
 Smaller maintenance charges.

Smaller floor space required.  
 More satisfactory performance.

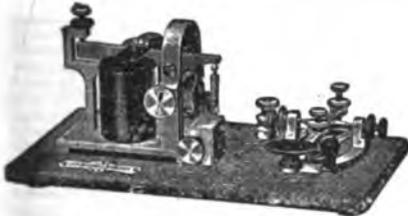
**THE ELECTRIC STORAGE BATTERY COMPANY, Allegheny Ave. and 19th St., Philadelphia, Pa.**

SALES OFFICES: New York, 100 Broadway. Chicago, Marquette Bldg. Boston, 60 State St.  
 Detroit, Michigan Electric Co. Baltimore, Equitable Bldg. Catalogues.  
 St. Louis, Walnwright Bldg.

Established 1878.

VERITAS VINOIT, VERITAS PREVALEBIT.

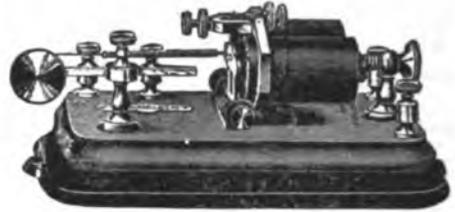
Incorporated 1899.



Main Line Sounding Relay. Key on Base.



Giant Sounder and Steel Lever Key Combination Set.



Regular Main Line Relay: 150 ohms.



Steel Lever Key.

**J. H. Bunnell & Co.,**

We continue to manufacture the High Grade of Telegraph and other Electrical Apparatus which has earned for us the reputation of

**BEST ON EARTH**

We own the Good-Will, Name, Copyrights, Trade Marks, Patent (268,881) and All Other Assets of the old firm of J. H. Bunnell & Co. and propose to maintain our rights in the premises. Attention is called to these Facts,

so that liability may not be incurred by dealing with unauthorized concerns.

**J. H. Bunnell & Co.,**  
 Manufacturers, Importers and Dealers in  
**Telegraph, Telephone, Railway, and Electric Lighting Apparatus and Supplies.**

Instruments, Batteries, Insulated Wires and Line Equipment.

**20 Park Place,**

Near General Post office,  
 Eastern Agency **NEW YORK.**  
 for Orient High Grade  
 Incandescent Lamps.



Box Sounding Relay. Key on Base.



Giant Sounder with Aluminum Lever.



Electric Bell Outfit.

**Prentiss Calendar Clocks**  
 for Office, Store and Home. They are well built, strong and durable movements and perfect time keepers.  
 Also **Frying-pan, Program and Synchronized Clocks.**  
 Send for Catalogue No. 730.  
**THE PRENTISS CLOCK IMPROVE'T CO.**  
 Dept. No. 73, 49 Dey St., N.Y. City.

**W. R. OSTRANDER & CO.,**

Manufacturers of

Speaking-Tube Goods,

Electric Bells,

Annunciators,

General Electric Supplies,

22 Dey St., New York.

SEND FOR CATALOGUE.

**All Right! Go Ahead!**

When a man goes into a store to buy a pair of President Suspenders he should either get them or come out. To make sure that which is offered is not a substitute, look for the name on the buckles.

If the word "President" is on the buckles, it's the genuine

**President Suspender**

Improved Model

If this name is not on the buckle, refuse to take it. If it is, you're all right--go ahead. The makers guarantee every pair of the genuine. Trimmings will not rust. Sold everywhere, 50 cents, or by mail postpaid.

C. A. EDGARTON MFG. CO., Box 260, Shirley, Mass.



**RIDER AGENTS WANTED**  
 One in each town to ride and exhibit sample 1901 Bicycle. **BEST MAKER'S 1901 Models, \$10 to \$18**  
 '99 & '00 Models, high grade, \$7 to \$12  
**500 Second-hand Wheels** all makes and models, good as new, \$8 to \$4 Great Factory Clearing Sale at half factory cost. We ship anywhere on approval and ten days trial without a cent in advance.  
**EARN A BICYCLE** distributing catalogues for us. We have a wonderful proposition to Agents for 1901. Write at once for our Harvest List and Special Offer. Address Dept. 53 L.  
**MEAD CYCLE CO., Chicago**

**LINEMEN SEND \$1.50 FOR A PAIR OF MY NEW IMPROVED CLIMBERS**  
**J. DONNELLY**

The plug is put on with 3 rivets, thus strengthening the climber at a vital spot. You can re-plug these. I mail a pair of plugs, post paid, for 60 cents.

Box 379. J. DONNELLY, DANFORD, CT., U. S. A.

# You Can Save \$65.00

ARE YOU WILLING TO BE CONVINCED by what others say who are using "THE CHICAGO" Typewriter in their offices in competition with other High Grade Machines. If so, send for our letters of recommendation. "THE CHICAGO" Typewriter is a mechanical triumph, a rare combination of highest quality with lowest price. Visible writing, standard keyboard, interchangeable steel type. A marvel of simplicity, compactness and durability. Performs the best service for the longest time at the least expense.

## "The Chicago"

TYPEWRITER

ONLY

**\$35.00**

NOT  
**\$100.00**

Guaranteed Equal to any \$100 Machine on the market. Catalogue Free.



## STENOGRAPHY

We also furnish if desired with "THE CHICAGO"

a complete course of the popular Gregg system of Shorthand taught by mail for \$5.00. The same as taught by leading Colleges for \$50.00 and up.

Send for our letters of recommendation showing what others are doing.

## GOLD MEDAL

awarded to "THE CHICAGO" at Paris Exposition, 1900, in open competition with ALL Typewriters.

FOR FULL INFORMATION, ADDRESS

CHICAGO WRITING MACHINE CO., Dept. A, 94-96 Wendell Street, Chicago, Ill., U. S. A.



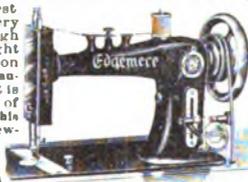
This illustration shows the machine as it is used, and as a center cabinet, instead of desk.

## SEND NO MONEY

HEAD CABINET EDGEEMERE SEWING MACHINE by freight C. O. D., subject to examination. You can examine it at your nearest freight depot, and if found perfectly satisfactory, exactly as represented, equal to the highest grade sewing machines advertised by other houses at \$20.00 to \$40.00, and as good a machine as you could buy from your dealer at home at \$30.00 to \$40.00, the greatest bargain you ever saw or heard of, pay your railroad agent our SPECIAL OFFER PRICE \$11.95 and freight charges. Give the machine three months' trial in your own home, and we will return your \$11.95 any day you are not satisfied.

## OUR \$11.95 EDGEEMERE SEWING MACHINE

is covered by a biologic 20-year guarantee, is made by one of the best sewing machine makers in America, has every new and up-to-date improvement, very light arm, positive four-motion feed, is very light running, does any work that can be done on any sewing machine made. It comes in a beautiful solid sanded antique oak, drop head cabinet, as illustrated. Cabinet is beautifully finished, highly polished and decorated with a complete set of the finest colored floral marquetry designs. AT \$11.95 we furnish this sewing machine complete with the following accessories: 1 quilter, 2 screw-drivers, 6 bobbins, 1 package of needles, 1 oil can filled with oil and a complete instruction book, which makes everything so plain that a child can operate the machine. For 75 cents extra (or \$12.70) we furnish, in addition to these regular accessories a complete set of highest grade foot attachments in metal box including: 1 foot hemmer, 1 ruffler, 1 shirring plate, 1 tucker, 1 underbraider, 1 blinder, 1 short foot and set of hemmers, different widths up to 3/4 of an inch. In ordering any if you want these extra foot attachments at 75 cents additional, ORDER TODAY. DO NOT DELAY. Such a beautiful sewing machine was never offered before at anything like the price. Write for Free Sewing Machine Catalogue or send 15 cents for our 1100-page Catalogue of Everything. Address, SEARS, ROEBUCK & CO., CHICAGO, ILL.



This illustration gives you an idea of the appearance of the High Grade, High Arm Edgemere Sewing Machine, which we furnish at \$11.95 in the handsome 5-drawer drop head oak cabinet illustrated.

## Don't Lose Your Grip!

"Writer's Paralysis," that foe to every telegrapher, can be kept away, or, if already present, can be banished without loss of time and at little cost.

Our new "natural" method makes the blood right, renews the muscles, invigorates and refreshes the deadened nerves, and your "sending" hand is as good as new again.

The special course (for which we charge \$5.00) includes one pair Roeder Wrist Developers, one pair Developers for muscles of the forearm and one set of Roeder "Grip" exercisers. Full particulars free.

Here is the unsolicited testimonial of an old-time expert telegrapher whose acute case of "writer's paralysis" was cured in a fortnight. The letter is one of hundreds that have been sent us from all over the country:

"PITTSBURGH, Oct. 10, 1900.

"A. H. ROEDER, N. Y.

"DEAR SIR—I haven't finished the special course you prescribed for me as yet, but the course has already 'finished' my paralysis, and I can 'send' as well as ever now. Your method is certainly a boon to telegraphers, and I shall recommend it to operators everywhere. I'm going to keep on with the course anyway for the good of my general health. I carry the 'Grip' exercisers in my pocket wherever I go. Gratefully yours,

"RICHARD L. KATNE,  
Postal Telegraph Co."

Address Dept. No. 2,

Fifth Avenue School of Physical Culture

H. R. ROEDER, Director,  
114 FIFTH AVENUE, NEW YORK, N. Y.



## SEND NO MONEY

cut in lead, out and send to us, state whether you wish Gents' or Ladies' Bicycles and we will send you the HIGHEST GRADE 1901 MODEL EDGEEMERE BICYCLE by express C. O. D., subject to examination. You can examine it at your nearest express office, and if found perfectly satisfactory, exactly as represented, the equal of bicycles that sell everywhere at \$20.00 to \$40.00 the MOST WONDERFUL BARGAIN you ever saw or heard of, then pay the express agent \$11.75 (or \$12.25 for ladies), and express charges, express charges are only 50 to 75 cents for 500 miles.

## THE NEW 1901 MODEL EDGEEMERE

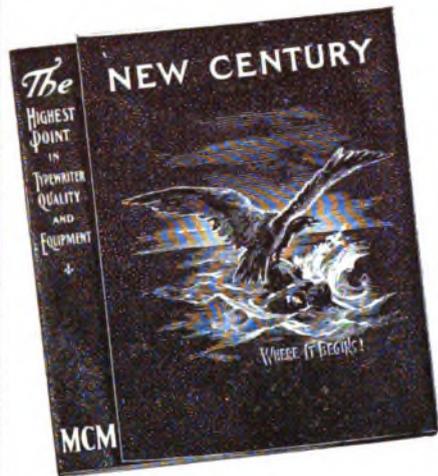
is covered by our written blading guarantee. Built on the very latest lines, made from genuine 1 1/4-inch best Shelby seamless steel tubing, 22, 24 or 26-inch frame, finest two-piece hanger, finest full ball bearings, handsome arch crown. Enamelled in black, green or maroon, neatly striped, highly nickeled, beautifully finished throughout. Highest grade equipment, saddle, tool bag and tools, pedals, up or down turned handle bars, highest grade genuine Clipper pneumatic tires, with quick repair kit, best of everything. Order today. \$11.75 is the lowest price ever known for a strictly High Grade Bicycle. A saving of \$10.00 to \$20.00. ORDER TWO EDGEMERES AT ONCE, you can sell the extra one at profit enough to get yours free. Write for free BICYCLE CATALOGUE. ADDRESS, SEARS, ROEBUCK & CO., CHICAGO, ILL.

Built on the very latest lines, made from genuine 1 1/4-inch best Shelby seamless steel tubing, 22, 24 or 26-inch frame, finest two-piece hanger, finest full ball bearings, handsome arch crown. Enamelled in black, green or maroon, neatly striped, highly nickeled, beautifully finished throughout. Highest grade equipment, saddle, tool bag and tools, pedals, up or down turned handle bars, highest grade genuine Clipper pneumatic tires, with quick repair kit, best of everything. Order today. \$11.75 is the lowest price ever known for a strictly High Grade Bicycle. A saving of \$10.00 to \$20.00. ORDER TWO EDGEMERES AT ONCE, you can sell the extra one at profit enough to get yours free. Write for free BICYCLE CATALOGUE. ADDRESS, SEARS, ROEBUCK & CO., CHICAGO, ILL.

## Maver and Davis's Quadruplex.

A lucid description of telegraphic apparatus. 128 pages, fully illustrated. Price, \$1.50, expressage prepaid. Address J. B. Taltavall, 253 Broadway, New York.





This handsome catalogue will tell you all about the  
**New Century**  
 Typewriter.

It contains a lot of valuable information and will be of interest to any one using a Typewriter.

Write for a copy.  
**AMERICAN WRITING MACHINE CO.,**  
 302 Broadway, New York.

**MARSHALL'S ELECTRICAL CONDENSERS.**



**MULTIPLE SERIES STANDARD CONDENSER. STANDARD CONDENSERS a Specialty.**  
 Condensers for Telegraph, Telephone, Electric Light and Experimental purposes. These condensers are used in all telegraph offices in America where standard and ordinary condensers are required. Send for catalogue.  
 Address **WM. MARSHALL,**  
 769 Lexington Ave., near 57th St., New York.

**A NEW WONDERFUL INVENTION!**



**UNPURIFIED WATER** from wells, cisterns, hydrants and streams kills 250,000 people annually. Causes 500,000 cases of Dyspepsia, Stomach and Bowel troubles, Kidney and Bladder diseases, Piles, Constipation, all kinds of Fevers—Typhoid, Yellow, Lung and Malaria; also Rheumatism, Female ills, Blood diseases, etc. Investigate, and you'll find **SAFETY LIES ONLY IN DISTILLATION** of all drinking water, before using. Boiling or filtering are merely subterfuges of no value. When a Chemist wants Absolutely Pure Water, he obtains it only by distillation. **EVERY FAMILY** can now, without extra expense or trouble, purify their drinking water by distillation—making it **absolutely safe and pure**, removing all impurities, germs of disease, Lime and other health-wrecking minerals by using the

**"PURITAN" NEW PROCESS WATER STILL**

**AUTOMATIC**  
 A new remarkable device, invented by a genius of Cincinnati, O. Entirely different and far superior to any filter. Simply set it over your cook stove, gasoline or gas stove and fill with any kind of water—it does the rest—**Furnishes Plenty of Pure Distilled Drinking Water** for family use, clear as crystal, soft, sparkling; aerates it, making it delicious to the taste. Try it 10 days and you'll be astonished at the improvement in your health, feelings and complexion. Thousands of prominent people testify to its marvelous power over disease. **DISTILLED** is the only safe water for families, infants, children, invalids, athletes—**Endorsed** by best physicians and the famous **Ralston Health Club** (11,000,000 members)—**used exclusively** in the U. S. Navy. Invaluable for Tourists, Surgeons and all Ralstonites. It is Nature's own medicine, and has cured thousands of hopeless cases. **ALL OUR READERS** should have one of these Remarkable Stills. They are well and durably made to last for years. Ready for use when received. **Style No. 7, Price, \$5.00; Style No. 9, \$8.00.** Sent anywhere with Plain Directions upon receipt of Money Order, Draft, Check or Registered Letter. **Money refunded after 10 days use** if not just as represented. You'll be delighted. We are reliable, old firm. Capital, \$100,000.00. Ship promptly.

**WRITE TODAY FOR OUR VALUABLE FREE** **AGENTS AND SALESMEN WANTED—MEN AND WOMEN.**  
 300K. TESTIMONIALS, &c. \$100.00 Monthly and Expenses. It's a wonderful seller—22,000 already sold. Customers delighted. Write us quick.  
 This firm is reliable—EDITOR.) **Harrison Mfg. Co., 293 Harrison B'ld'g. Cincinnati, O.**



**GORDON PRIMARY CELL**

**MOST EFFICIENT, CHEAPEST COST OF MAINTENANCE. TWO HUNDRED PER CENT. LONGER LIFE THAN ANY OTHER.**

Used on CLOSED or OPEN CIRCUITS for any kind of work for which primary batteries are required. Especially valuable for TELEGRAPH and TELEPHONE service.

MANUFACTURED BY

**THE GORDON BATTERY CO.,**  
 13-15 Laight St., NEW YORK CITY.

(When writing Advertisers mention TELEGRAPH AGE.)

**Standard Underground Cable Co.,**

**Wires, Cables, Conduits.**



**RAILWAY, ELECTRIC LIGHT, TELEPHONE, TELBORAPH.**  
 For Aerial, Underground and Submarine Use.

**NEW YORK. PHILADELPHIA. CHICAGO. PITTSBURGH. BOSTON. SAN FRANCISCO**

# THE TELEGRAPH AGE.

No. 5.

NEW YORK, MARCH 1, 1901.

VOL. XXIV.

## CONTENTS.

Some Points on Electricity.....	89
Recent Telegraph Patents—Resignations and Appointments— Business Notices.....	90
Miscellaneous Items—The Reign of the Telegraph—Personal Mention—Obituary—Recent New York Visitors.....	91
A New Sea Wireless Telegraph System—Publications.....	92
Scientific Principles and Discoveries Relative to Telegraphy.....	93
Pearne Printing Telegraph System—A Military Telegraph Operator in the Civil War.....	94
Telephoning Without Wires.....	96
Editorial—An Excess of Wireless Telegraphy—What Hath God Wrought—German Pacific Cable.....	97
Annual Meeting of the Postal Telegraph Cable Co.—Postpone- ment of the International Telegraph Conference.....	98
A Plucky Boy Lineman.....	99
The Plight of a Gallant Telegrapher.....	100
The Postal Library at Chicago.....	101
Something About Train Dispatching—South African Tele- graphic Interests.....	102
Crossed Wires.....	103
To Our Friends.....	104
To Our Correspondents—Philadelphia, Postal; Chicago, Western Union; Ottawa, Great Northwestern Telegraph Company..	105
Kansas City, Postal; Baltimore, Notes; Los Angeles, Postal; Los Angeles, Western Union; Chicago, Postal.....	106
Philadelphia, Western Union; Cincinnati, Postal; St. Louis, Western Union; New Orleans, Western Union.....	107
Boston, Postal; New York, Postal; New York, Western Union.....	108
Augusta, Western Union—Regarding Telegraphers—Berliner Patent Case Decision—T. M. B. Association.....	109
Coal and Cable.....	110

## SOME POINTS ON ELECTRICITY.

BY WILLIS H. JONES.

### The Galvanometer—continued.

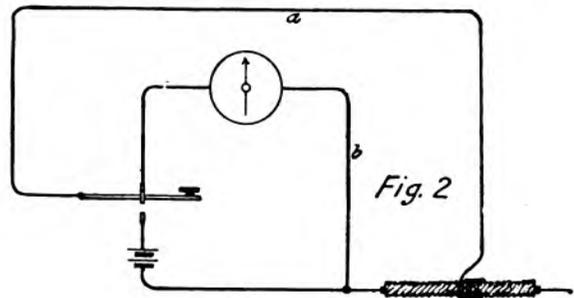
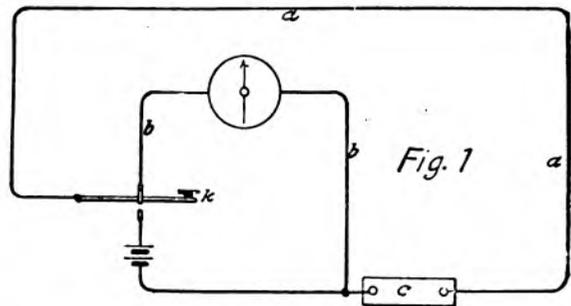
A novice at handling the galvanometer may pursue the analogy existing between a duplex circuit and a galvanometer still further as a means of indicating the manner in which he shall proceed in attaining certain ends. He has already learned that the artificial resistance in the rheostat of a duplex apparatus, properly balanced, gives the true conductivity of the external telegraph circuit, and, therefore, corresponds with the rheostat of a wheatstone bridge which measures the resistance of the wire attached to one of its arms, and that the two coils of the relay correspond to the two arms of the bridge.

In addition to ascertaining the conductivity of a wire, the capacity of the conductor for retaining an electric charge is frequently desired. In a duplex circuit this factor manifests its presence in the guise of what we all "static," and represents the amount of "bound" electricity a wire contains when charged with an electric current. The charge is only released, and is most detrimental, when the charging current is broken.

On a duplex circuit, when the distance battery is "broken" by the alterations in the polarity, the electric charge flows back through one coil of our home relay, which charge, unchecked, will produce a "kick," after the manner of a legitimate incoming current making its signal. We offset this impulse by meeting the arrival with an equal quantity of outgoing charge from a separate source, namely, our condenser.

Now, this procedure suggests a means of measuring the strength of the said charge, or, in other words, the electro capacity of the conductor. If the

charge will affect the armature of the relay it will likewise deflect the needle of a galvanometer. Therefore it is simply necessary to cause the released electric charge of a conductor to exert its influence against a galvanometer needle, note the degree of deflection, and then, by means of an adjustable condenser, ascertain the employed capacity of the latter after the metal plugs have been so arranged that the needle is deflected to a degree identical with that obtained by the charge in the conductor being measured. This plan, however, is more theoretical than practical, for many reasons, but it conveys the idea. In practice



it is more satisfactory to proceed in the following manner:

Secure a small standard condenser—say, one of  $\frac{1}{2}$  microfarad capacity—discharge it through the coils of a galvanometer and note the degree of deflection. The result obtained will serve as a constant or divisor. Then substitute the wire or cable to be measured for the condenser, and after charging the latter with the same battery, cause the conductor in turn to empty its charge through the galvanometer and again note the deflection. If the tangent of the latter deflection be, say, twice as great as the former, it will indicate that the electro-capacity of the wire measured is just one microfarad. As this result represents the capacity of the entire length of the line, it must, of course, be divided by the number of miles or poles in circuit as may be desired, in order to measure shorter sections thereof.

Fig. 1 shows how the connections should be made. Key K has two contact points. When depressed,

the galvanometer circuit through wire b is left open and the battery is short circuited through the condenser and wire A—A. This connection charges the condenser. Releasing the pressure on the key suddenly, opens the battery and shunts the galvanometer through wire B—B, causing the condenser to discharge through the galvanometer coils and deflect the needle. If one volt be the value of the charging battery and the deflection shows 200 divisions on the scale with the half microfarad condenser employed, it is evident that 400 divisions will represent the "constant" for a one microfarad condenser charged with one volt.

Having found the latter constant, remove the condenser and substitute the cable to be measured, as shown in Fig. 2. Then proceed as before. Depress the key for about half a minute, in order to allow the conductor to become fully charged and note the deflection of the needle when the key is released. If the tangent of this deflection shows, say, 800 divisions, divide 800 by 400, and the quotient will give the true capacity of the conductor in microfarads.

In a like manner the electromotive force of a battery may be measured by employing a standard cell of battery as a constant. By the same process of substitution we compare the respective deflections of the needle due to the electromotive force of the standard cell and the battery suspected. The only difference lies in the reading of the results which are pronounced volts instead of microfarads.

In these days of direct reading apparatus a much simpler way of testing the electromotive force and condition of a cell or number of cells of battery is to obtain an ammeter and one cell of battery which is known to be in good condition in every respect, and short circuit the latter through the ammeter and note the deflection of the needle. Use the result as your standard or constant. Then substitute the suspected cell or row of cells for the good one and compare the result as indicated by the needle. If the deflection falls below the first test the battery requires attention.

*(To be continued.)*

#### Recent Telegraph Patents.

A ship's telegraph has been patented by F. W. Wood, Newport News, Va.

What is called a Fac-Simile telegraph (No. 667,454) has been patented by A. Pollak, Szentes, Austria.

#### Resignations and Appointments.

Mr. F. H. Knight has resigned as manager of the Western Union office at Poplar Bluff, Mo., the position being filled by the appointment of Mr. R. V. Huckelby, of St. Louis, Mo.

Mr. Frank M. Greene, manager of the Western Union office at Toledo, Ohio, has been succeeded by Mr. George L. Wagner, lately in charge of the Produce Exchange office at that point.

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

#### Business Notices.

The great flower seed firm, that sends large-sized packets of reliable new crop seeds of all the newest and standard varieties at a little price, is S. Y. Haines & Co., 105 Boston Block, Minneapolis, Minn. Their regular patrons for many years past know their reliability, and that they fulfill every claim made in their advertisements and catalogues. They solicit correspondence with all our readers who love beautiful, thrifty flowers.

Owing to exaggerated reports that appeared in the daily papers regarding the fire which occurred at the factory of W. R. Ostrander & Co., on February 9 last, and which led some to suppose that the works were completely destroyed, we are requested to state that as a matter of fact the loss was comparatively small, and that it will be but a short time now when everything will be in order again. In the meantime, the firm has had no difficulty in promptly filling all orders from the unusually large stock on hand in their New York city salesrooms, 22 Dey street, and telegraphers need not hesitate to send in their requisitions.

The typewriter known as "The Chicago," manufactured by the Chicago Writing Machine Company, of Nos. 94-96 Wendell street, Chicago, is advertised elsewhere in this issue. The machine has been referred to as of a type well adapted to the needs of telegraphers, and this journal has been selected as the medium through which to reach this large class. The instrument is a low-priced one, and its advantages are clearly and distinctly stated. The machine has come into extended use, and the letters of recommendation that the manufacturers have received from satisfied users they are anxious intending buyers should first see and read, hence the request that they be written for. Operators will do well to send to the company for full particulars.

Those persons who want a garden will do well to write to James Vick's Sons, Rochester, N. Y., stating what plants most interest them, and a copy of Vick's Garden and Floral Guide for 1901 will be sent free. Every possible direction for the successful growing of flowers and vegetables of every variety is concisely set forth in this volume of 130 pages, so that much that is of interest to the amateur or professional gardener is contained therein. The many handsome half-tone engravings showing the actual appearance of various flowers, together with their names and a concise statement of their habits and other characteristics, tend to make the book of special value to those not very well posted on plant life, as through it they may learn to recognize and classify flowers and plants that are now unknown to them.

Mr. Charles E. Yetman, the well-known inventor, of Iliou, N. Y., writes:

"I feel like congratulating you upon the continued improvement in your paper. I read it always with great interest, and should feel it a hardship to be obliged to do without it. I hope that the various features of the paper may continue to advance in the future as they have in the past."

**Miscellaneous Items.**

Mr. Harlan Fitch, an operator of the Signal Corps at Manila, in a recent letter, writes: "I find TELEGRAPH AGE just as acceptable and useful over here as in the States; your paper is not excelled."

Mr. Albert Eckert Chandler has been appointed manager of the messenger department of the Postal Telegraph-Cable Company, 253 Broadway, N. Y., vice Mr. H. E. Wilson, resigned. Mr. Chandler is the son of Col. A. B. Chandler, of the Postal Company.

Mr. E. A. Coney, electrician, who has been in the electrical engineers' department of the Postal Telegraph-Cable Company, New York, for some time, has decided to accept a position under Manager Shirley, in the main operating-room of that company, with a larger field of usefulness.

Mr. W. L. Blair has resigned his position as superintendent of the Eastern division of the New-York, Chicago & St. Louis Railroad (Nickel Plate), with headquarters at Buffalo, N. Y., and accepted the position of superintendent of telegraph of the line, with headquarters at Cleveland, Ohio.

The death in January last of Edwin Holmes, president of the Holmes Electric Protective Company, of this city, caused a profound sense of personal loss to be felt by the employes of that company. The event has been given expression in a peculiarly fitting set of resolutions, drawn up and signed by fifty of the men longest in the company's employ. This testimonial of love and esteem has been executed within a handsomely designed scroll with pen and ink, and in a most remarkable and beautiful manner. The whole is a chaste conception, and discloses a highly artistic piece of workmanship. The enclosing frame measures about 34 x 40 inches.

**The Reign of the Telegraph.**

It is a far cry from the \$15,000 cash capital of the Magnetic Telegraph Company in 1845 to the \$3,975,000,000, which represented the cost of the electrical appliances in actual use in the United States at the end of the year 1900.

The Morse telegraph was the first attempt to use electricity for industrial purposes. The Magnetic Telegraph Company was organized mainly through the efforts of F. O. J. Smith, in 1845, and was the beginning of the present immense telegraph and telephone business and other branches of business in which electricity is used. The company's capital stock was \$60,000, of which one-half went to the owners of various patents, and \$30,000 of which was allotted to subscribers, who invested the comparatively insignificant sum of \$15,000 in cash. This \$15,000 was the working capital of the first telegraph company. That sum to-day would hardly pay for the furnishings in the general office of any one of the big telegraph or telephone companies.

The value of the property owned and used in their business by telegraph companies alone in this country is estimated by competent judges at \$250,000,000,

of which the Western Union Company holdings represent some \$115,000,000. Every railroad has its own telegraph system; 800 cities have fire telegraph lines, and every city of any consequence has its police department telegraph system. In addition to this, there are in large cities systems of electric burglar alarms, "thermostatic protection" and district messenger companies with telegraph lines.—New York Mail and Express.

**Personal Mention.**

The friends of Morris W. Mead, superintendent of the Bureau of Electricity, Pittsburg, Pa., will be glad to learn that he has so far recovered from his recent painful accident of a broken leg as to be able to get about with the aid of crutches.

Mr. Charles C. Adams, superintendent of the Postal Telegraph-Cable Company, at Philadelphia, Pa., accompanied by his wife, has gone on a trip to Jamaica, West Indies. He goes to seek rest and recreation, and will be absent for several weeks. The voyage to Jamaica, made on the steamers of the United Fruit Company, is a most enjoyable one, for these fine vessels, which, in point of equipment and service, vie with the great transatlantic liners, afford the traveler every comfort.

**Obituary.**

Frank Irving Barnhart, a well-known telegrapher of St. Paul, Minn., died in that city on February 15, aged 33 years. He is survived by a widow.

Adolph G. Hummel, for about fifteen years superintendent of the Stock Quotation Ticker Company, New York, died February 16. He was about 45 years of age. He began his telegraphic career as an office boy, and, later, as ticker keyboard operator, had no superior. He kept zealously abreast of the times; had marked executive ability, and traits of character that won him many friends and admirers. Many representative telegraph officials attended the funeral services. Interment at Greenwood.

**Recent New York Visitors.**

Mr. E. B. Baker, general superintendent of the Southern New England Telephone, New Haven, Conn.

Mr. Harvey D. Reynolds, superintendent of the Postal Telegraph-Cable Company, at Buffalo, N. Y.

One day, in a town where he was to lecture, Rev. Henry Ward Beecher went into a barber shop to be shaved, whither he had been directed by a telegraph operator through whom he had sent a message. The barber, not knowing him, asked him if he was going to hear Beecher lecture. "I guess so," was the reply. "Well," continued the barber, "if you haven't got a ticket, you can't get one. They're all sold, and you'll have to stand." "That's just my luck," said Mr. Beecher. "I always did have to stand whenever I heard that man talk."

### A New Sea Wireless Telegraph System.

Alexander William Sharman, the electrical expert of Lloyds, London, arrived here, February 21, on the White Star line steamship *Georgic*. Mr. Sharman crossed the ocean for the purpose of experimenting with wireless telegraphy, and, after leaving Liverpool, he exchanged signals between the *Georgic* and Lloyd's signal station at Brow Head, Ireland. The experiments were successful, messages being received and sent through the air at a distance of twenty-two miles.

Mr. Sharman returned to the *Georgic* February 26, and the experiments will be resumed as the steamship approaches the Irish coast. It is understood that the experiments along this line will be extensive, and with a view to demonstrating the practicability of the system for marine signalling. The system of wireless telegraphy used by Mr. Sharman is not the Marconi system, although the fundamental principles are similar.

During his brief stay here, Mr. Sharman talked enthusiastically of his experiments. He said:

"The system adopted is that invented by Col. Henry Montague Hozier, secretary of Lloyds, and Mr. Nevil Maskelyne, of the Egyptian Hall, London, a well-known astronomer and electrician. The apparatus used in this system is altogether different from that employed by the Marconi syndicate.

"Our apparatus is simple in construction and easy to manipulate, so that the ordinary marine signalman is able to use it after a day's instruction. I boarded the *Georgic* Saturday, February 9, with my instruments. They were placed on a rude table rigged up on the main deck. No elaborate arrangements were made aloft for the tests. The collector conductor was simply fastened to the fore and aft stay, which stretches between the two masts.

"Mr. Maskelyne had gone to Brow Head with a set of instruments to assist in the tests from that end. At about 2:30 o'clock, as the *Georgic* was passing the Fastnet lighthouse, the warning bell on my instrument began ringing, telling me that Mr. Maskelyne, the patentee, was about to communicate with me from Brow Head.

"I then turned a switch that stopped the bell and started another part of the mechanism. In a second or two a slight clicking sound was heard, followed by the appearance of a slip of blue paper, on which was printed in Morse characters the message from Brow Head.

"Mr. Maskelyne telegraphed 'Hello, aboard the *Georgic*! How are you, Sharman?' To this I replied, 'I am here, and pleased to hear from you. All well aboard the *Georgic*!' The steamer was then ten miles from Brow Head, and signals were exchanged as the *Georgic* continued on her regular course at usual speed, until she was twenty-five miles from Brow Head, when the tests were discontinued. The messages were easily read, although my receiver was not adjusted as nicely as it should have been, owing to the haste in setting it up. The rolling of the steamship also interfered somewhat with the experiments."

Mr. Sharman said that the greatest advantage of this system is that it works equally well in all kinds of weather.

### 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.

Mr. C. A. Sherr, manager of the Canadian Pacific Railway's commercial telegraph office at Ashcroft, B. C., left there March 1, on a three months' vacation, which will take him to New York, Chicago and other places of interest in the United States.

### Scientific Principles and Discoveries Relative to Telegraphy.

In the series of weekly contributions by leading authorities, reviewing the progress of the last century, published in the *New York Sun*, Prof. T. C. Mendenhall, in an article entitled "Physics," discusses the scientific principles and discoveries relative to telegraphy, as follows:

In no other department of physical science have such remarkable developments occurred during the past century as in electricity and magnetism, for in no other department have the practical applications of scientific discovery been so numerous and so far-reaching in their effect upon social conditions. In a brief review of the contributions of the nineteenth century to the evolution of the telegraph, telephone, trolley car, electric lighting and other means of utilizing electricity, it will be possible to consider only a few of the fundamental discoveries upon which the enormous and rather complex superstructure of to-day rests. Happily, these are few in number, and their presentation is all the more important because of the fact that in the popular mind they do not receive that significance to which they are entitled, if, indeed, they are remembered at all.

The first great step in advance of the electricity of Franklin and his contemporaries (and his predecessors for 2,000 years) was taken very near the end of the last century, but it must be regarded as the beginning of nineteenth century electricity. Two Italian philosophers, Galvani and Volta, contributed to the invention of what is known as the galvanic or voltaic battery, the output of which was not at first distinctly recognized as the electricity of the older schools. By this beautiful discovery electricity was for the first time enslaved to man, who was now able to generate and control it at times, and in such quantities as he desired. Although the voltaic battery is now nearly obsolete as a source of electricity, its invention must always be regarded as one of the three epoch-making events in the history of the science during the past 120 years. For three-quarters of a century it was practically the only source of electricity, and during this time and by its use nearly all of the most important discoveries were made. Even in the first decade of the century many brilliant results were reached. Among the most notable were the researches of Sir Humphrey Davy, who, by the use of the most powerful battery then constructed, resolved the hitherto unyielding alkalies, discovering sodium and potassium, and at the same time exhibited in his lectures in the Royal Institution in London the first electric arc light, the ancestor of the millions that now turn night into day.

The cost of generating electricity by means of a voltaic battery is relatively very great, and this fact stood in the way of the early development of its applications, although their feasibility was perfectly well understood. Without any other important invention or discovery than that of the voltaic battery, much would have been possible, including both electric lighting and the electric telegraph.

Indeed, electric telegraphy had long been a possibility, even before the time of Galvani and Volta, but its actual construction and use was almost necessarily postponed until a second capital discovery came to remove most of the difficulties.

This was the discovery of a relation between electricity and magnetism, the existence of which had long been suspected and earnestly sought. A Danish professor, Hans Christian Oersted, was fortunate in hitting upon an experiment which demonstrated this relation and opened up an entirely new field of investigation and invention. What Oersted found was that when a conductor, as a copper wire, carrying an electric current, was brought near a freely suspended magnet, like a compass needle, the latter would take up a definite position with reference to the current. Thus an electric current moved a magnet, acted like a magnet in producing a "magnetic field." The subject was quickly taken up by almost every physicist in Europe and America. Arago found that iron filings would cling to a wire through which a current was passing, and he was able to magnetize steel needles by means of the current. Ampere, another French physicist, studied Oersted's wonderful discovery both experimentally and mathematically, and in an incredibly short time so developed it as to deserve the title of creator of the science of electro-dynamics.

The first to make what is known as an electro-magnet was an Englishman named Sturgeon, who used a bar of soft iron, bent in a horseshoe form (as had long been common in making permanent steel magnets), and after varnishing the iron for insulation, wrapped a single coil of copper wire about it, through which the current from a battery was passed. There were thus two ways of producing visible motion by means of an electric current, that of Oersted's simple experiment, in which a suspended magnetic needle was deflected by a current; and that made possible by the production, at will, of an electro-magnet. The application of both of these ideas to the construction of an electric telegraph was quickly attempted, and two different systems of telegraphy grew out of them. One, depending on Oersted's experiment, was developed in England first, and afterward in Europe; the other, that involving the use of signals produced by an electric magnet, was developed in America, and was generally known as the American method. It has long ago superseded the first method in actual practice. Its possibility depended on perfecting the electro-magnet, and especially on an understanding of the principles on which that perfecting depended. For the complete and satisfactory solution of this problem, we are indebted to the most famous student of electricity America has produced during the century. Joseph Henry.

In 1829, while a teacher in the academy at Albany, N. Y., Henry exhibited an electro-magnet of enormously greater power than any before made, involving all of the essential features of the magnet of to-day. The wire was insulated by silk wrapping, and many coils were placed upon the

iron core, the intensity of magnetization being thus multiplied. Henry studied also the best form and arrangement of the battery under varying conditions of the conductor. An electro-magnetic telegraph had been declared impossible in 1825, by Barlow, an Englishman, who pointed out the apparently fatal fact that the resistance offered to the current was proportional to the length of the conducting wire, and that the strength of the current would be thus so much reduced, for even short distances, as to become too feeble to be detected. Henry showed that what is known as an "intensity battery" would overcome this difficulty, discovering experimentally and independently the beautifully simple law showing the relation of current to electro-motive force, which Ohm had announced in 1827. He also invented the principle of the relay by which the action of a very feeble current controls the operation of a more powerful local system. It will thus be seen that the essential features of the so-called American system of telegraphy are to be credited to Henry, who had a working line in his laboratory as early as 1832.

Morse made use of the scientific discoveries and inventions of Henry, and, by his indefatigable labors and persistent faith, the commercial value of the enterprise was really established. In the meantime, considerable progress was made in Europe, Baron Schilling, a Russian Counsellor of State, devised and exhibited a needle telegraph. The two illustrious German physicists, Gauss and Weber, established a successfully working line two or three miles long in 1833, and this system was commercially developed by Steinheil in 1837. In England, Sir Charles Wheatstone made many important contributions, although using the needle system, which was afterward abandoned. Before the middle of the century, the commercial success of the electro-magnetic telegraph was assured, and in the matter of transmission of messages distance was practically annihilated.

#### **Pearne Printing Telegraph System.**

A printing telegraph system was recently tested at Omaha, Neb., for which the inventor makes great claims. The apparatus consists of a sender resembling the keyboard of a typewriter, and a receiver similar to the carriage and platen of a typewriter. The message is sent by manipulating the keys on the sender, and is received and automatically printed on a roll of paper by the receiver. A patent for the apparatus was granted to Frank D. Pearne on October 9, 1900. According to a newspaper description of the invention, "each letter is made by a certain motion of one of nine fingers, each finger being susceptible to four motions from as many grades of currents, supplied by storage batteries at either end of the line." A successful test of the system is said to have been made over a 554-mile line with current at 85 volts.

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

#### **A Military Telegraph Operator in the Civil War.**

Mr. Marquis D. Crain, night chief operator in the general office of the Western Union Telegraph Company, St. Louis, Mo., because of his competency and bravery, was sent on many dangerous missions and occupied many positions of great responsibility in his particular sphere of activity. In relating his career as a military telegraph operator, he said:

"I entered the service of the government as a military telegraph operator in March, 1862, in the Department of the Missouri, under the command of General Halleck. A military line had been constructed from Cairo to Fort Henry, about forty miles from Cairo, and thence to Fort Donelson. For some unknown reason Cairo could not hear anything whatever from the operators at Fort Henry or Donelson. General Halleck was satisfied that General Grant had fought a battle somewhere, and his anxiety to hear from him was intense. He called for George H. Smith, superintendent of military telegraph, and asked that an expert operator be sent down to Forts Henry and Donelson to find out why the telegraph line could not be made to work. I was detailed for that purpose. I shall never forget the time I appeared before General Halleck for orders. I was but 20 years old and very timid. As soon as I tremblingly announced who I was, General Halleck arose, and, speaking with great earnestness, said:

"Young man, I want you to proceed to Cairo immediately and put that line to General Grant's headquarters in working order, if it takes a regiment of soldiers at every pole. Do this forthwith at whatever cost.' He then handed me an order to the Quartermaster at Cairo to furnish me immediate transportation to any point I designated. I arrived at Cairo at midnight and presented my order without delay. I said, 'I must go to Paducah at once.' The Quartermaster replied, 'The Belle of Memphis is the only boat in the harbor. It will cost the Government \$300 to take you there to-night.' I said, 'I can't help that. I must go there just as soon as you can get me there.'

"At 2 o'clock the old Belle of Memphis steamed out. I was the only passenger. As soon as daylight came I saw what was the trouble with the wire. It was a "tree line." Insulators had been nailed on the cottonwood trees up the Ohio River bottom about 20 feet from the ground. The Tennessee, Cumberland and Ohio rivers were all blooming and fully one-third of the wire was under water. Of course, no power on earth could make it work.

"Proceeding up to Fort Henry, I found the operator. There I was furnished a horse and an escort of 125 cavalry to go to Fort Donelson. The great battle had been fought and the rebels routed. As I rode along close to the telegraph line closely inspecting every pole, I noticed around each pole a lot of soldiers. About a mile out from Fort Henry, while I was looking up at the wire, a soldier called out: 'Don't you look up at that wire; if you do, I'll shoot.' I soon succeeded, however, in establishing my identity.

"Upon inquiry I found that General Halleck's or-

der had been received down there the day before, and a regiment of infantry had been detailed and distributed in squads along the line to guard every pole. As a matter of fact, there was no communication with St. Louis until the river fell at Fort Donelson. It was there I first met C. W. Hammond, now superintendent of telegraph of one of the great railway systems of the world. The acquaintance then made has ripened into the strongest bonds of fellowship.

"From Fort Donelson I went on horseback to Savannah with instructions to assist in constructing a military line from that point to Nashville and report to General Grant. While we were waiting for material to arrive, the battle of Shiloh took place. Savannah was seven miles from the battleground. I was standing beside General Grant when the first cannon boomed, and we started at once for the battle. Such a scene as was witnessed on the river bank! Ten thousand raw Ohio troops were rushing down the embankment to try to get on the transports! Officers were trying to stop them by holding their revolvers to their heads, to force them back on the hill to fight.

"General Grant took the field and ordered me back to Savannah, where a short line was in operation. My instrument was in the front window of an empty storeroom, and messages were coming in pretty fast. The wounded were being brought in from the battlefield and the surgeons were probing for bullets and sawing off arms and legs. There was the greatest confusion. The piteous appeals of the wounded soldiers—their crying and groaning—were so loud and constant that I was unable to hear the tick of my instrument. All I could do was to stand to my post, though it seemed at the time almost more than I could bear.

"Soon after that battle General Halleck came down from St. Louis and took command in person, laying siege to Corinth. Beauregard was well entrenched there with 125,000 men, and it was supposed that the South was calculating upon making the stand of their life there. I was ordered to serve as General Halleck's operator, with Levi C. Weir as cipher operator and L. D. Parker assistant. Weir is now president of the Adams Express Company, while Parker was, up to January 1, general superintendent of the Postal Telegraph Cable Company.

"General Halleck concentrated an army of 150,000 men on the battlefield of Shiloh in front of Corinth. The most complete military telegraph system ever constructed connected the wings of his army. We had a wire to Nashville, over which all orders from Washington came.

"This gave us a metallic circuit which placed General Halleck in immediate telegraphic communication with the three wings of his army. How the messages flew day and night! As many as 150 were received every day from Washington, mostly from Mr. Lincoln to General Halleck.

"After we had marched triumphantly into Corinth, for the first time in three months I slept in a bed. Telegraph headquarters were established in a

house on the public square, while General Halleck had his tent in the front yard. Here we remained all summer. Halleck was then ordered to Washington to take command of the entire land forces of the United States. He asked me to go with him, but, as I was now thoroughly in love with the field work, I declined his flattering invitation. When I made known my decision he did not urge me to go with him.

"General Halleck was a most kindhearted and considerate man. He fairly loved the telegraph operators. I now recall an incident or two to show how he stood by us. One of his brigadiers arrested the operator at Jackson, Tenn., because he refused to show him the contents of a message that was addressed to another officer. As soon as Halleck heard of the arrest he hastily wrote a message to his subordinate and gave it to me to send. It read:

"Release the operator at once. He did perfectly right. I want you to understand that operators are subject only to my orders and the Secretary of War. If you interfere with them again I will arrest you and bring you to Corinth."

"Upon another occasion, I was sent by General Halleck with a note to General Buell, that required an answer. When I reached Buell's tent, I was very tired, and while he was writing his answer I squatted on a camp stool. Buell became enraged at once. I thought he was going to blow me from a cannon's mouth. He bellowed out, 'How dare you sit down in a Major General's tent!' I jumped to my feet, scared almost out of my wits. I couldn't have been more frightened had he threatened me with court-martial. Upon my return to Halleck's headquarters, I related the incident to him. He smiled, and, patting me on the back, said, 'I guess we will have to overlook it, seeing it's Buell.'

"Notwithstanding all the horrors of war, which were always terrifying and appalling to me, we had some kind of sport nearly every day. I would often go to the General's Adjutant to get an order on the Commissary for a pint of whisky, to replenish the main battery. We played that on the General all summer. I was at one time sent from Corinth with a train of bridge timbers bound for Iuka. The train was attacked by a band of General Price's men, and bullets were whizzing all around me. I ran with my pocket instrument through a big cornfield, and escaped by daylight into our lines. When I walked into our camp, I was arrested for a Rebel spy. It took me three days to convince them that I was General Halleck's telegraph operator. When I got back to Corinth, I found that General Price had attacked the city in great force, a fierce battle had been fought, and a Rebel canon ball had passed right through the telegraph office, where I had been accustomed to sit. So I was forced to conclude that my expedition on a train of bridge timbers to Iuka was a very fortunate experience, after all.

"I had some funny experiences with some fellows who wanted me to accommodate them in sending their messages. As ours was a military line, all matter not directly connected with the

army had to take its chances. I remember particularly a Jew, who had established himself in the Tishomingo Hotel, in Corinth, as a watch tinker. His stock in trade was a miscellaneous lot of galvanized jewelry. His business was immense, and he was making piles of money selling his wares to soldiers at fabulous prices. I had a fine new gold watch sent me from St. Louis. In winding it, I had accidentally pressed the stop spring, not knowing it had such a contrivance. I took it to this Jew to have fixed. He declared a jewel was broken, and pretended to put in a new one for me. His bill was \$7.50. I was on to the whole business, and saw him start the watch. He held out for the \$7.50, and I paid him. The next day he came rushing into the office with a message for St. Louis. Our army had been ordered to Jackson, Miss., and this shyster wanted to countermand his order for goods. The message read, 'Dont ship goods.' I told him my orders from General Grant were not to send anything but military business over the wire. 'My God,' said he, 'I will be ruined. I fixed your watch for half price. The main spring was broke.' 'Well,' said I, 'you told me a jewel was broken. But I'll send your message, since you're a friend of mine.' 'Tank you,' he replied; 'how much is it?' 'Eleven dollars,' said I, laconically. 'My God! is that the rate to St. Louis?' he asked. 'No,' said I; 'the rate is \$1.05, but I charge you \$11 for taking advantage of me in that watch business.' It is needless to add that he paid it without another word.

"In October, 1864, I was given a position in the military office at St. Louis. The office was in the old Oak Hall building, at Fourth street and Washington avenue.

"About two weeks after I arrived in St. Louis, General Price represented to Jeff Davis that nine-tenths of the young men of Missouri were loyal to the confederacy. He told Davis that he could take 5,000 men, march into Missouri, destroy every railroad in the State, and march out with 50,000 recruits, armed. Davis immediately gave him the necessary men. He struck Missouri in the southeastern part of the State and marched north, destroying bridges, burning cars and recruiting. Gen. A. J. Smith was started out of St. Louis with three train loads of troops to meet Price and drive him from the State. I was detailed as General Smith's cipher operator. Our trains came to a sudden stop half a mile east of Pacific, thirty-five miles from St. Louis. The town was then called Franklin. I jumped from the train and saw that the tank house was on fire. The enemy was in sight, planting a six-pounder on an eminence in Pacific. I cut the wire, put my pocket instrument in and established communication with General Rosecrans' headquarters. I sat upon the ties, using the iron rails for a ground wire. They answered the purpose admirably. Many messages were exchanged. Our skirmish line was out, and rapid firing of musketry was going on all around me. The rebels kept up a constant fire from the howitzer, sending cannon balls whizzing over my head high in the air. General Smith said: 'We are safe here. They have no range on us, and can't

get any from where they are.' Price was covering a retreat. He was soon driven out of Pacific, and we proceeded westward after him. I often wonder how many people in this city know how near Price ever got to St. Louis. Thirty-five miles! Just think of it! I don't believe one man in a thousand knows of the narrow escape of St. Louis.

"The first night after leaving Pacific we camped on a farm, and while the boys were skinning the farmer's sheep and preparing supper, I had my instrument in the wire, working with Rosecrans' headquarters. That night, in a tent, I received a message addressed to General Smith, which has never been made public. At this late day, I feel that I can safely divulge its contents. It came in cipher, and read:

"Nashville, Tenn.—My Dear General: I leave with my army to-morrow morning. I intend to cut this rebellion in two. Before you hear from me again you will have heard more about the brute Sherman."

"The wire beyond the camp was so badly torn down that it was useless for me to proceed further. General Smith left me a bodyguard of 125 men, and established a courier line from there to wherever he halted. Two days later we were attacked by guerrillas, and driven toward Pleasant Hill in the night. The next day General Rosecrans took the field. He caught up with the main line of Price's army at the Little Blue, a battle was fought, and Price was driven into Arkansas with a less force than he came in with. Then came the proudest moment in my life. Upon returning to St. Louis with General Rosecrans, I was promoted to be chief telegraph operator, on account of conduct in the field, and remained in that position till the close of the war."

#### Telephoning Without Wires.

M. Gautier announces that the first step has been made in the discovery of wireless telephony. He ascribes the discovery to M. Maiche, the French inventor, says the Scientific American, and the experiments were carried out in the forest of St. Germain. The transmitter was placed in a house on the outskirts of the forest, and it was connected with the earth in the same manner in which lightning rods are connected. Two iron posts, 90 feet apart, connected by wire, were planted in the ground about a thousand yards distant. Voices and other sounds at the transmitter were clearly heard at an ordinary telephone receiver attached to one of the posts. M. Maiche claims that the communication is in a straight line, and not by wave current, but by a circuit current, thus enabling a given spot to be aimed at. If the receiver is not placed exactly in the direction given at the current, there will be no transmission, and receivers on either side of the line of transmission will not be at all affected.

A new cable between Porthcurno (Cornwall, England) and St. Vincent (Cape Verde Islands) has been laid and opened for traffic, thus completing the new direct route between Great Britain and South Africa.

# TYPewriter EXCHANGE

TITLE GUARANTEED.



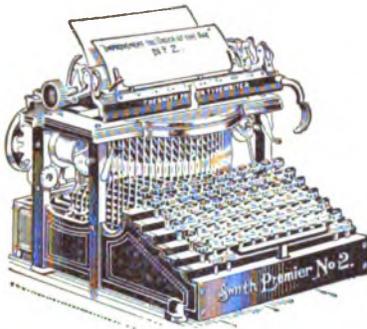
Most complete stock of Second-Hand Machines of any house in the trade.  
 Samples of work and prices cheerfully furnished on application.  
 Machines shipped subject to inspection.

**BRANCH OFFICES:**

- |  |   |
|--|---|
| <b>BOSTON</b> —38 Bromfield Street.          | <b>KANSAS CITY</b> —818 Wyandotte Street. |
| <b>BALTIMORE</b> —3 W. Baltimore Street.     | <b>PITTSBURG</b> —432 Diamond Street.     |
| <b>CHICAGO</b> —124 La Salle Street.         | <b>ST. LOUIS</b> —208 No. 9th Street.     |
| <b>SAN FRANCISCO</b> —536 California Street. |   |

Mention TELEGRAPH AGE when you write to advertisers

## Higher Education IN Typewriter Operating.



# THE Smith Premier,

The World's Greatest  
Touch Typewriting Machine.

**I**T has **The Perfect Keyboard.** Keys on the Smith Premier are in straight lines. No zigzag arrangement to hinder the movement of the fingers, up and down the keys, which should be automatic. The Touch on the Smith Premier is light and absolutely uniform. **On the Smith Premier Typewriter One Stroke** only for each character; on single keyboard machines, **Two Strokes** are required to print one-half the characters. The Smith Premier has the easiest keyboard to learn and the surest and most satisfactory to operate.

**TOUCH INSTRUCTION BOOK AND ILLUSTRATED BOOKLET FREE ON REQUEST.**

**THE SMITH PREMIER TYPEWRITER CO.,**

Write for Information.

Syracuse, N. Y., U. S. A.



## Medal Awarded at Paris Exposition

....TO....

**FOOTE, PIERSON & CO.**

....ON....

Telegraph, Telephone, Fire and Police Telegraph Instruments

82-84 FULTON ST., NEW YORK

### THE GAMWELL FIRE ALARM TEL. CO.

19 Barclay St., New York.

JOS. W. STOVER, President. H. F. BENDER, Treasurer.

#### FIRE ALARM and POLICE SIGNAL TELEGRAPHS

FOR CITIES AND TOWNS

Over 850 Plants in Actual Service.

SELLING AGENTS:

THE POLICE TELEPHONE & SIGNAL CO.,  
161-163 Randolph Street, Chicago, Ill.

GEO. D. GREENWOOD,  
609 Market Street, San Francisco, Cal.

FIRE & POLICE TELEGRAPH CO.,  
Louisville, Ky.

Wm. E. DUNCROW,  
178 Devonshire Street Boston, Mass.

SOUTHERN ELECTRIC CO.,  
Hoen Building, Baltimore, Md.

WESS CHANDLER,  
Richmond, Ind.

UTICA FIRE-ALARM TELEGRAPH CO.,  
Utica, N. Y.

## ERICSSON TELEPHONES



**Telegraph Men**  
do well with our goods as  
a side line. Try it and see.  
Full particulars on application.  
Is the best too good for you?

ERICSSON TELEPHONE CO., 296 Broadway, New York

## THE TELEGRAPHERS' MUTUAL BENEFIT ASSOCIATION.

A FRATERNAL LIFE INSURANCE SOCIETY.

**INSURANCE, \$500 and \$1,000. THIRTY-THIRD YEAR.**

For Particulars address **M. J. O'LEARY, Secretary, Box 510, NEW YORK.**

# The Telegraph Age.

Entered as second-class matter at the New York, N. Y., Post Office.

Published on the 1st and 16th of every month.

## TERMS OF SUBSCRIPTION:

One Copy, One Year, . . . . .	\$1.50
One Copy, Six Months, - . . . . .	.75
Foreign Countries, - . . . . .	2.00

ADDRESS ALL COMMUNICATIONS TO

**J. B. TALTAVALL,** - *Editor and Publisher,*  
253 BROADWAY, NEW YORK.

**E. H. BOWEN,** MANAGER ADVERTISING DEPARTMENT.

**W. N. GATES,** SPECIAL ADV. AGT., 29 EUCLID AVE., CLEVELAND, O.

**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, March 1, 1901.**

## An Excess of Wireless Telegraphy.

So the approximate date is definitely fixed upon for perfecting the apparatus by which wireless telegraphy shall be established across the ocean! After proclaiming that signals had been successfully flashed between the Earth and Mars, of course the comparatively insignificant distance that separates America from Europe ought to be vanquished without trouble. The wonder is that even a period of eight months should be required to arrange appliances for the purpose. It would appear that when gigantic distances, penetrating the almost immeasurable depths of inter-planetary space, had been annihilated, even though it became necessary to obtain the proper focus from a distant and isolated high mountain summit (presumably in order to escape the gaze of the vulgar), that so small an undertaking as to bridge an earthly measure of space would require no appreciable outlay of time to accomplish. Still, it should be remembered that there are no convenient mountain tops along the line of the Atlantic coast in which to find seclusion and repose of mind for needful test and experiment, and, perchance, by some occult means, overcoming the curvature of the earth, to obtain a peep of the European shore itself, to get "the lay of the land," so to speak.

The New York Sun, which lately has shone in a most luminous manner, indeed, regarding things electrical, rapturously describes the experimenter's optimism as a "gorgeous vision." Then, in a more reflective mood, querying whether it will be realized, cruelly dismisses the subject by adding: "We must let doubt and incredulity gnaw upon the bare statement."

## "What Hath God Wrought."

Mr. W. A. Bole, as retiring president of the Engineers' Society of Western Pennsylvania, said recently: "The first message ever flashed over the At-

lantic cable was from the good Queen Victoria to our President Buchanan, and the words were these: 'What hath God wrought?' In summing up the results of a century's progress in electrical matters, what more fitting words can be employed than these of the gentle sovereign of our mother country?" Well, that first message was rather dubious, anyhow, remarks the Electrical World and Engineer, but now the good old Queen is dead, some one ought to arise and defend her from this funny charge of plagiarism.

## German Pacific Cable.

The possibility that German interests, in addition to late English projects, will also lay a submarine cable across the Pacific before American schemes shall have accomplished a similar purpose, is the cause of considerable adverse comment as to the tardy methods regarding this matter that have been pursued by Congress. This is heightened by the latest announcements that the Caroline Islands, which were promptly purchased by Germany from Spain after the United States had declined to take them, and which form natural landing places half way across the Pacific, will soon be connected telegraphically with the rest of the world. The news comes to the State Department from Consul General Guenther, at Frankfort. He has information to the effect that Germany and the Netherlands are planning to lay a new cable to connect with the Dutch East Indies and make them independent of the British cable syndicate. It is proposed to have the main line go to Shanghai, with branch cables from there north to Kiao-Chau, east to Japan and America, and south to the Indian Archipelago. The southern line will have its first station on the Bismarck and Caroline Islands, and from there will go west in a roundabout way through the Dutch dominions to the North Natuna Islands, without touching any of the British possessions. The North Natuna Islands will form the terminus of the line.

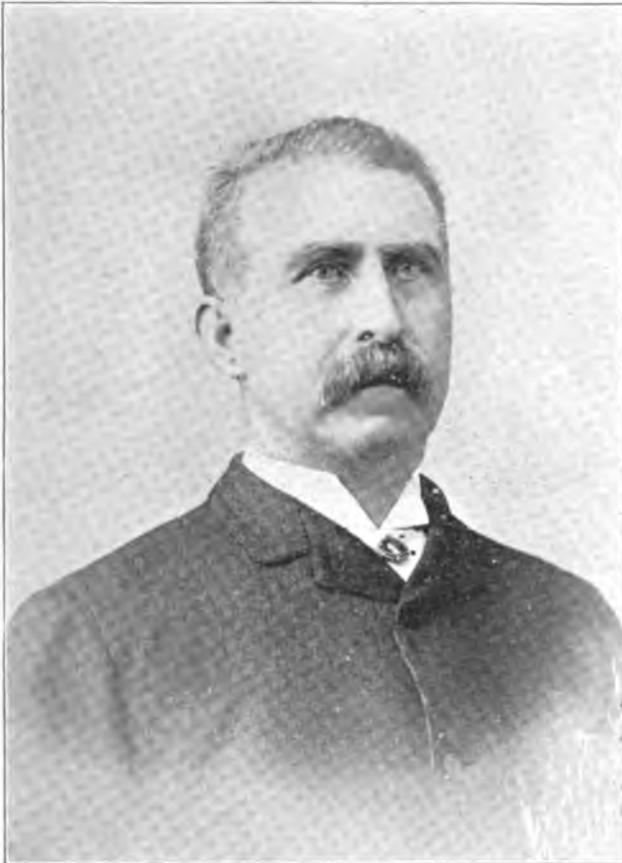
The Netherlands will construct the following cables: First—From Natuna Islands to Pontinac, Billiton, Banka and Palembang, in connection with the land line, which will traverse the country by way of Kalianda, through the Sunday Straits, to Batavia. Second—From Palembang direct to Batavia. Third—From Macassar to Ambon, where Germany will continue the cable to German New Guinea to connect with the main line.

A proposed amendment to the sundry civil appropriation bill, authorizing a contract for building a Government cable from San Francisco to Hawaii, was favorably reported to the Senate, February 19, from the Committee on Commerce. An appropriation of \$500,000 is carried, but the ultimate cost of the cable is not stated.

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.

**Annual Meeting of the Postal Telegraph-Cable Co.**

At the annual meeting of the Postal Telegraph-Cable Company, held in New York, February 26, the gentlemen comprising the Board of Directors for some years past, viz.: John W. Mackay, Clarence H. Mackay, George G. Ward, Edgar C. Bradley, Albert B. Chandler, William H. Baker, Edward C. Platt, Sir William C. Van Horne, Chas. R. Hosmer and James W. Ellsworth, were re-elected for the ensuing year, and Mr. George Clapperton, traffic manager in New York of the Commercial Cable Company, was also made a member of the board, in place of Mr. George S. Coe, deceased.



MR. JOHN WILLIAM MACKAY,  
President of the Postal Telegraph-Cable Co., New York.

The by-laws of the company were amended so as to provide for the office of Chairman of the Board of Directors, and Mr. Albert B. Chandler, who has served as President of the company from its organization, was elected to that position.

Mr. John W. Mackay was elected president, and the following named gentlemen were re-elected to their respective offices: William H. Baker, vice-president and general manager; Edgar C. Bradley, George G. Ward, Clarence H. Mackay, vice-presidents; Edward C. Platt, treasurer; Theodore L. Cuyler, Jr., assistant treasurer; John O. Stevens, secretary; Charles P. Bruch, assistant secretary and assistant general manager.

We are glad to learn that Mr. Chandler is to retain his rooms in the Postal-Telegraph building, and that although his well-known and long-cherished desire of retiring from the burden of business, which he has continuously carried for more than forty years, is now accomplished, in a modified sense, he is still to be prominently and intimately connected with the extensive properties which he has done so much to build up, and that this is done in such a manner as to be most agreeable to his associates and himself. We are also glad to learn that his health is so far restored that he has been at his desk since October last, almost as constantly as formerly, and with good prospects of complete recovery.



COL. ALBERT B. CHANDLER,  
Chairman of the Board of Directors, Postal Telegraph-Cable Co.,  
New York.

**Postponement of the International Telegraph Conference.**

All arrangements had been made for the holding in London, England, on May 15, and subsequent days, the tenth International Telegraph Conference, under the presidency of Lord Londonderry. The meetings of the delegates appointed by the States subscribing to the St. Petersburg convention were to have been held in the examination hall of the College of Physicians and Surgeons, in London. In consequence of the national mourning in England, it has now been decided to postpone the conference until next year.

A meeting was held of the directors of the Chicago and Northwestern Telegraph Company on February 14, at 105 Broadway, N. Y., for the election of officers. The result was the re-election of Mr. T. P. Scully, president, and Mr. A. R. Brewer as secretary and treasurer.

### A PLUCKY BOY LINEMAN.

BY WM. A. BOWDISH.

In the fall of 1879, when I was superintendent of telegraph service on the Southern Minnesota Railroad, a line repairer named Franklin sustained a severe injury by a fall, and during the winter was unable to attend to his duties. In reporting his condition, he recommended that Jonathan Hardrubble be employed in his place on the western division, as Hardrubble knew the line thoroughly, and was competent and trustworthy. On this recommendation, I immediately sent instructions to Hardrubble to assume Franklin's duties, and he did so. Save that his division was kept in excellent condition, and his reports were concisely worded and written in a neat, round hand, I knew nothing of him.

One morning in April I received a tersely worded note from the general superintendent, telling me that he had been informed that the lineman on the Flandreau Division was a sixteen-year-old boy, and suggesting that a man be appointed in his place.

I was not only surprised to learn that my model lineman was a boy, but regretted to discharge him without cause, as he had proved painstaking and efficient. Furthermore, good men, willing to bury themselves on the Dakota prairies for \$40 a month, were not numerous, and undoubtedly difficulty would be experienced in finding a man to accept the place. Therefore, I took a half-dozen monthly reports that had been submitted by Hardrubble, and stepped across the hallway to the superintendent's office to make a personal appeal for the boy.

The general superintendent was a thorough railroad manager of long experience, sometimes gruff, but always just, and I was not without hope of inducing him to rescind his order. He listened to my statement, and then shook his head.

"There is too much hard work and responsibility in that position for a sixteen-year-old boy!" he declared, emphatically. "He may do his work well for a time, but occasion will arise when he will fail, and fail in such a manner that it will mean heavy property loss, if not loss of life. I must insist that you replace that boy with a man."

As the superintendent finished speaking, and I was about to leave the room, a messenger entered with a telegram. It was long and evidently important, as the superintendent read it through twice. He folded it into a small compass and slipped it into his pocket, and, as I started to leave the room, said:

"I have changed my mind about that boy, Gregory; you need not discharge him. And when opportunity to do anything for him arises, just call my attention to the matter."

It was two weeks before I knew the meaning of that unexpected change of orders.

Through the long, hard winter—still famous as the "big winter"—the young lineman had done his work as well as a man could have done it. From November 14, 1879, until the second week in

March following, no trains were run on time between Wells, Minn., 150 miles west of the Mississippi, and Flandreau, Dak., the western terminus of the road; and in all those months not a dozen trains, freight or passenger, passed over the entire length of the road. The prairies west of Jackson were buried under snow drifted to an unheard-of depth, and in many places the tall telegraph poles barely protruded above the crust.

But on every day of that long, cold winter the wires west of Jackson were "working," and twice between December 1 and the day in March when the big rotary snow-plow cut its way through the disappearing drifts, the boy had tramped across the crusted snow, from the point where the three big engines working westward were "bucking" the drifts, to the crew of farmers and sectionmen slowly shoveling their way eastward.

With the last week in March the sun had melted what little snow had been left on the right of way by the shovelers. On the open prairies great bare spots of grass alternated with wavelike drifts—shadows of their former selves—and every tiny brook and swale was turned into a raging torrent or a lake by the melting snows. The warm chinook, sweeping eastward from the far mountains, tempered the atmosphere; and when the young lineman set out on his velocipede car to inspect every foot of wire on his division, nature seemed to give a mute pledge that spring was come.

Twenty miles east of the Dakota line, in the southwestern part of Minnesota, Rock River finds its way in a southwestern direction to the Big Sioux. Its course is down a valley varying in width from 300 to 400 yards. For miles the prairie is unbroken on either side of the valley, when suddenly there is a sharp descent of 75 or 100 feet to another level. The opposite bank is equally abrupt, and the valley looks as if it had been formed by a part of the prairie sinking and leaving a perpendicular bank on each side.

The engineers who surveyed the line for the railroad found it hard to determine how this valley should be crossed, the problem not being solved until a narrow gulch was found leading from the east to the bottom of the depression. From the mouth of this gully the line makes a sharp turn northward, running up the valley a short distance to a point where another ravine leads up to the prairie level westward.

The men who constructed the telegraph system avoided the dip into the valley by running their line of poles directly to the top of the descent, on the very verge of the precipice. Here a spile, one of the kind used in bridge work, had been erected, and on the opposite side of the valley another stout post had been placed. From these two poles the wire was strung across the valley, sagging in the middle, and hanging but a few feet above the tops of cars passing on the track below.

When Hardrubble reached the point where the telegraph line led slightly to the northward from the railroad, he lifted his light velocipede from the track and walked across the prairie toward the

descent. As he approached the spile supporting the eastern end of the wire suspended over the valley, he saw that an insulator bracket was loose, permitting the wire to sag. His climbers were strapped to his feet, and he quickly made ready to replace the loosened bit of wood.

With his task finished, the boy rested his weight on the steel climbers and gazed on the scene before him. The top of the pole at an elevation of 20 feet gave him a view of the prairie for a distance of a dozen miles in either direction. Off to the west the line of rails, winding and twisting across the prairie, led toward the three spires and twoscore brown roofs of Pipestone, where a dark blot on the landscape indicated that the east-bound through passenger train was at that moment leaving the station. North and south, as far as the eye could reach, stretched the valley of the Rock, and down its center roared the river, in summer a tiny stream that might be forded anywhere, but now a torrent, fed by the melting snow.

The water was brown, and white, and yellow, and here and there great cakes of ice had jammed, sending the currents back against themselves until parts of the valley were transformed into lakes. He saw that at the railroad bridge below him one of these dams had formed, and that the ice was piled high against the structure. And then he saw what caused his heart to beat faster and the blood to leave his cheek. The western end of the bridge had been torn from its fastenings by the pressure of ice and water, and the rails from the west led out of the gully and around a point of bluff, and ended over a gulf filled with a foaming tide and masses of grinding ice cakes. This meant disaster to the coming train, and, perhaps, death to train crew and passengers, unless warning of the danger were quickly given.

For miles in either direction no bridge spanned the river, and to wade or swim the stream was impossible, the strong current and moving ice making the attempt almost certain death. Where the gorges had formed the ice was a grinding mass, and a glance revealed the fact that these could not be trusted.

Young Hardrubble's glances wandered up and down the valley, and then across the prairie to the westward, where the faint blur of smoke of a few minutes before had increased to a long, black cloud. In ten minutes the train would be swinging around the sharp curve of the gully into the valley.

Then his gaze returned to the river. The only thing spanning the current was the rusty telegraph wire, leading with a graceful droop from his perch at the top of the tall pole to the opposite bluff. Could that aid him? At the middle of the valley, 100 yards distant, it was not more than 18 feet above the ground. If in any way he could cross on that frail span, it would sink still lower under his weight, and he might readily drop to the soft turf on the western bank of the river.

An instant later he drove his steel spurs deeper into the pine pole, and as he clung with one hand to his unsteady perch, he hastily unbuckled the

belt around his waist with the free hand. Attached by rivets to this stout strip of leather was a steel snap, from which, by means of a ring in the handle, was suspended his hatchet. He cast the hatchet aside, removed the belt, and clasped the steel snap around the wire. Then, throwing his weight on belt and snap, and withdrawing the spurs from the pole, he began the dash across river and valley.

As he released his hold on the timber, the steel loop slid smoothly down the slanting wire, slowly at first, and then more rapidly, his body carried forward by its own increasing momentum. The bank seemed to glide away from him, and almost in an instant he was above the raging river, the tossing waves sprinkling him with spray as he crossed. Then below him was the brown sod of the western bank, the wire sagging under his weight until his toes almost touched the earth.

Releasing his hold upon the belt, he fell headlong upon the water-soaked ground, but quickly gained his footing, scrambled up the embankment to the track, and ran panting up the gorge to meet the train. His frantic gestures soon brought engine and cars to a stop.

"Why not Hardrubble?" suggested the superintendent two years later, when I notified him that it was my intention to resign, and that consequently a new superintendent of telegraph must be appointed. The superintendent did try him, and after the Southern Minnesota Railroad was absorbed by the Chicago, Milwaukee & St. Paul system, another promotion awaited the former lineman. To-day he is superintendent of telegraph on one of the leading railways of the West.—The Youth's Companion.

#### The Plight of a Gallant Telegrapher.

Last Fall, when a party of Ute Indians attended a certain carnival, a well-known Western Union manager made small presents to a number of them, giving a particularly pretty squaw a string of beads. A few weeks later he received from the squaw an elegantly embroidered jacket, and then he learned that this exchange of presents constituted an Indian betrothal. He proposed when he gave the beads, and she accepted by sending him the jacket. The telegraph official wrote at once to the chief of the Utes, explaining that he did not want a wife, that he already had one, and that the whole thing was a mistake, due to his ignorance. Now he has received a reply, saying that all preparations for the wedding had been made, and that if he failed to be on hand there would be trouble.

A recent Berlin dispatch states that a number of prominent men representing commerce and industry have had a conference with the Secretary of Posts and Telegraphs regarding the frequent telegraphic interruptions on the lines to England, and declared that they would prefer to send their dispatches to London by way of New York, as they would then arrive sooner than if sent direct.

A well-known Western operator sends "Kirty" for "Kansas City;" another, the signature "John Smith & Cogaurblax."

**The Postal Library at Chicago.**

Editor TELEGRAPH AGE:

The existence of libraries doubtless antedates the beginning of history. The Assyrian kings possessed large collections of inscribed terra-cotta tablets, and a library is known to have existed at Athens as early as 600 B. C. Until within a comparatively recent date libraries were established and maintained principally by monarchs, or were the accumulation of universities, and were not accessible by the people, but were reserved for professors and students, and their privileges restricted by many oppressive laws. At the present time it is made possible for literature to become the heritage of all men; it is a legacy not entailed upon a favored few. Benjamin Franklin, the wise and far-sighted American, really created the first public library in the United States when he persuaded a few associates to place their books in a common stock for loaning to each other. He lived to see his idea developed into a great library for the free and unrestricted use of the people. It is now possible for the smallest city or village in the country to possess a respectable collection of books, and their influence for good might compare favorably with those of the public schools. The Boston Public Library building, occupying 51,000 square feet of ground, is a dignified and imposing structure, and the beautiful paintings upon its walls make of it a veritable palace, while the Chicago Public Library building, with its fine architecture, its inlaid walls, marble halls, and crystal domes, is without a rival.

But what is of special interest to most of us is the Postal Library Association, which had its beginning in the New Stock Exchange building in December, 1895. The idea originated with Mr. E. J. Nally, general superintendent, who fitted up a pleasant room, furnished with book cases and reading-tables, and supplied with daily papers, magazines, etc., contributed to the use of the employes as a reading-room and library. In grateful recognition of the liberality manifested by the Postal Company, the employes agreed to contribute each a book towards forming the nucleus of a library. Nor did the contributors stop with "each a book," for Mr. G. C. Flegel, our manager at Westville, Ind., sent ninety-eight volumes, including many fine electrical works; the company's solicitors, Messrs. Frank J. and Charles F. Loesch, contributed twenty volumes of scientific works, which were carefully selected by Mr. J. E. Pettit, while Mr. E. J. Nally made a generous donation of books of a high order, that cannot fail to exert a beneficial influence on our readers. Many others also contributed largely. In order to continue the additions to our library, the original charter members, 107 in number, and those joining later, pledged themselves to contribute a nominal monthly sum to be devoted to this purpose. This has resulted in the accumulation of a library of nearly a thousand volumes and many maps, magazines and periodicals, the latter of which are circulated among our members the same as bound books. The periodicals and magazines are, after a

certain period, sold at auction to the highest bidder, and the proceeds derived from this source goes to increase the association's purchasing fund.

The first regular meeting was held in the reading-room, May 12, 1896, Mr. J. E. Pettit presiding, and Mr. G. L. Durand acting as secretary. Mr. Pettit was elected president for the ensuing year, and his re-election each year since is the strongest evidence of the appreciation of his painstaking efforts and the high esteem in which he is held. The entire management of the library has been turned over to the employes, who framed the policy of the association. One cannot better give an idea of the standing of the Postal-Telegraph Library Association than by quoting from our president, in his annual letter: "The association is no longer in the experimental stage; it is located permanently with us, and it needs no words from me to prove that it is an evidence of our advancement."

In connection with and under the auspices of the association, there has been organized an electrical class, which meets Tuesday and Thursday evenings and on Saturday afternoons, when lectures on electricity and system of telegraph accounts are given. Learning and merit have no rank and seek no display. It is possible for all to meet here on a common plane, and the utmost harmony and good feeling characterizes our relations with each other. The support and coöperative interest shown by the officers of the company warrant our looking forward to good results, and to render efficient aid to all who are in earnest to attain a degree of excellence which will fit them for higher usefulness and greater responsibilities. The electrical studies are confined to the handling of quads, duplexes, repeaters, and the instruments in daily use in the telegraph business. On Tuesday evenings of each week the instruction is confined to the general accounting system peculiar to the Postal company. The membership is large, and increasing daily, and the interest shown by the employes is such that we do not hesitate to predict a fine future for the association. LENORA E. PATTEN, Secretary.

Chicago, February 21, 1901.

[We are heartily in sympathy with the purposes of a library of the character above described. It is stimulative and educational to a degree, shedding abroad a moral and refining influence, and is deserving of a devoted and loyal support. Such efforts to provide for the welfare and higher pleasures of the telegrapher should receive every encouragement, and may profitably be emulated elsewhere. New York city, with its vast telegraphic interests, ought to be a worthy leader in a movement of this kind.—Editor.]

Incidental to the inaugural ceremonies in Washington, on March 4, which doubtless will be one of the most imposing and largely attended affairs of the kind ever held, additional telegraph wires will be strung to a number of prominent points, in order to facilitate telegraphic transmission, which promises to be heavy.

You can't afford to be without TELEGRAPH AGE.

### Something About Train Dispatching.

Upon the Man at the Telegraph Key rests a big share of a railroad's responsibility for the safety of the traveling public. The Man at the Telegraph Key, says the Albany Argus, gives hail or farewell to every train that enters or leaves the Albany Union station, and all along the line of the New York Central's safeguarded block system the Man at the Telegraph Key in the signal tower speeds the incoming and outgoing train on its way in an uninterrupted line of intercommunication.

The work and responsibility attached to the work of an operator is best appreciated when one studies the daily routine attached to a division like that of the Mohawk Valley, which, under the direction of Mr. G. D. Gager, chief of train dispatchers, has its office in the Union station. The click of the various instruments never ceases. As one set of operators finishes its work, another set is ready to take its place: and, day and night, year after year, the wires are kept constantly busy. On this division, including the men in the signal stations, there are 150 operators employed.

Upon the chief train dispatcher rests the major share of the responsibility. There are others above him, it is true, but his business is to see that all orders sent out over the wires reach their destination without delay, and that every operator in the division performs his duty. He must see that train orders are issued in accordance with the prescribed forms, he must travel over the line at convenient and frequent intervals, examine the condition of every instrument along the line, and see that only one person issues train orders over the same territory at the same time. He must see that every dispatcher reports regularly, that each issues orders which are received, promptly, and that the orders are according to the prescribed forms and rules.

In the main office there are nine dispatchers on duty, six for the main road and three for the West Shore line. From this office is issued every order necessary to dispatch a train from Albany to Syracuse, the end of the division.

Each order is necessarily brief, and in order to abbreviate oft-repeated orders, numbers are used for whole sentences. For instance, "5" would mean: "Close your key; you are breaking." "12" would mean: "How do you understand?"

All orders must be sent as given without change or alteration, and they are numbered consecutively for each day, beginning with No. 1 at midnight.

Orders are addressed to those who are to execute them. Those for a train to the conductor and engineman, and also to a person acting as pilot. A copy for each is supplied by the operator at the station at which the order is received. A copy of every order is kept by the operator in a book provided for the purpose, together with a record of the signatures of the person receiving the order.

When a conductor or engineman receives an order, he is required to read the same aloud to the operator, in order that he may be sure that he understands it, before acting upon it.

When an operator receives an order, he is obliged

to repeat it back to the office from which he receives it; and the office sending the order notes whether or not it has been correctly repeated. The operator receiving an order preserves the lowest or last copy, which is signed by the person receiving the same. On this appears the time when it was received, the operator's name, the date and train number, for which places are provided in the blank spaces.

These are sent to the superintendent. In addition to this, operators are required to report to the superintendent the time of departure of all trains, and the direction in which extra trains are moving. They also make a record of the arrival of all trains, but they are not required to report this, unless requested.

### South African Telegraphic Interests.

Mr. Somerset R. French, the Postmaster General of Cape Colony, is quoted in a recent interview in "South Africa" on the telegraphic situation in that country, incident to the Boer war, as follows:

"The Boers not only cut our telegraphic lines again and again, doing a vast amount of damage, but, as you will remember, destroyed practically the whole of the Orange River-Kimberley section of the main telegraph line, carrying thirteen wires, which ran by way of Fourteen Streams to Pretoria and Johannesburg. That line, so far as Cape Colony is concerned, has been restored; but as yet it is impossible, under existing conditions, to maintain it across the country beyond Fourteen Streams." Thus, as Mr. French pointed out, the telegraphic routes with Pretoria and Johannesburg are greatly restricted by reason of their having to follow the British lines of communication.

"As regards Natal," Mr. French observed, "we were able, as a precaution, to construct an alternative route, which, fortunately, had not to be relied upon. The Cape and Natal Governments between them constructed a telegraph line connecting the systems of the two colonies by way of Harding and Port Shepstone, and intended for use in the event of Pietermaritzburg being cut off."

"A large number of additional men are required at this very moment. The number of military telegrams is exceedingly great, and the work in connection with the war takes up the whole time of a very large number of men." Mr. French explained that they were anxious to get as many good men as possible, and that there was no fear as to openings in the future, for Johannesburg and Pretoria alone would, when re-opened to business under normal conditions, need a staff of five hundred.

"Although," said Mr. French, "the Colonial Post Office trains every suitable lad it can obtain, and has at present one hundred and fifty in its schools, this supply is not nearly sufficient to provide for the wants of the country." Mr. French explained that the Cape Colony Post Office not only acted as the recruiting ground for all the telegraphic services of South Africa, but was now being very heavily drained of its men by the military authorities, who were always asking for further assistance. The war had also taken away their men in a more direct manner, ninety-eight having

volunteered for service immediately on the outbreak of hostilities. The offices in the areas under martial law had been kept open day and night, which had necessarily involved the strengthening of the staffs. At De Aar, for instance, thirty-six men were now required, in place of the twelve who were formerly sufficient. The larger offices had also been open day and night since the commencement of the war, and had had their staffs augmented.

The Cape Post Office alone had "imported" two hundred men to fill vacancies incurred by others having joined the Military Railway Service, or the Military Postal and Telegraphic Services of the Orange River Colony and the Transvaal. But they were still very short-handed, and all over the country men were working considerably beyond the normal hours, the sick list in consequence being a very heavy one.

Our representative gathered that the men required by the Cape Post Office were those who had seen from three to five years' service in England, and who could pass medical and qualifying examinations before going out. The rates of pay, we understand, are £120 per year for men with three years' English service, £132 10s. for four years, and £145 for five years, with annual increments and promotions from class to class, until a salary of £320 per annum is attained. It should be remembered, however, that there are certain deductions, including 4 per cent. for a Widows' and Pension Fund. In some parts, such as Griqualand West, where living is dear, there are extra allowances of about £50 per year for married and £25 for single men. Applications in this connection are made in London to Sir William Preece, Consulting Engineer of the Cape Colony. Mr. French explained that the English Post Office had been very good in the matter of finding men for South Africa, but that the British authorities were now hard driven themselves to keep up their own staffs, and had of late been unable to offer assistance. In fact the Cape during the past year had to get eighty men from Australia.

It should be noted that there is little or no opening for lady Post Office clerks in Cape Colony, only a few being employed locally in some of the towns. What are wanted are men capable of working long-distance wires, and any such applying to Sir William Preece may be fairly certain of success. It should be noted that, as the British Postal authorities will not at present allow their men to "transfer" to Cape Colony, any who go out cannot take with them, as formerly, the credit of their English service for the purpose of pensions.

Apropos of the above, the following from the Natal Witness is of interest:

"The Railway Department in this Colony can scarcely be taken seriously in its offer of employment to men from the home service at salaries of £10 and £11 a month. Yet such is the inducement held out to applicants and advertised in several of the English newspapers. At the present time the cost of board and lodging alone would account for the whole of such salaries, though doubtless the conditions now are abnormal. However,

there are many factors which will tend to maintain the cost of living, and, in the most favorable circumstances, the position of the railway employé will not be a happy one. When artisans in the mines can earn £1 a day, it is doubtful whether the public departments are wise in offering salaries so much below the standard rates, unless they are willing to accept boys fresh from school.

"The precedent of low salaries is also being followed by the Telegraph Department, though the conditions are better, and apply to men drawn from the Home Service only. Without any knowledge of the cost of living in this country, or the conditions which obtain, a number of operators have signed agreements at salaries of £15 a month with passage paid. But as the average rate of pay for such work is about £25 a month, it is very probable that on arrival in the Transvaal the new men will repudiate their contracts and leave the service for commercial life."

#### Crossed Wires.

A story is told of a mysterious interference with messages on the wires between Kansas City and Denver. The interruption was variable. At last it was discovered that a young cowherd on the prairie had driven spikes into a telegraph pole, climbed it, and, placing a piece of board across the wires, had secured a sightly lookout station from which to watch the cattle as they grazed. The board was often left there, and in a rain became wet enough to cause a short circuit of the wires on which it rested.

Another story is to the effect that last Fall there was trouble on the wires north of London, England. Tests were at once made, and the difficulty was located a few miles north of Peterborough. A lineman was sent on his bicycle, and found a dead snake four feet long, which had been thrown up over the wires by boys. The snake's body was causing a short circuit and interrupting the messages of the world's metropolis.

The official report of the proceedings of the fifth annual convention of the International Association of Municipal Electricians, held at Pittsburg, Pa., on September 25-27, 1900, has made its appearance, and is being sent out gratuitously with the compliments of the society. In its more than 200 well-printed pages, the volume recites the full programme of the very instructive and delightful meeting referred to, and those who were there and partook of the generous hospitality of the occasion, a recollection that will remain vivid in the minds of many, will be glad to read in detail the experiences of that memorable visit. The volume is profusely illustrated, and familiar faces will be recognized on many of its pages.

The telegraph poles along the Savannah & Statesboro Railway, in Georgia, are growing. They are made of cypress, and must have been planted with the roots. They are sprouting at the top, and serve a double purpose. They are shade trees as well as a support for the wires.

# TO OUR FRIENDS.

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

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

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

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

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

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

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

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

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

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

**J. B. TALTAVALL,**

**THE TELEGRAPH AGE,**

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

**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.

**PHILADELPHIA, PA., POSTAL.**

Valentines, sentimental, humorous and "respectfully referreds," were floating around. One of the latter class was resurrected from oblivion and turned over by Chief Operator C. A. Stimpson, to Mr. Charles Knapp, now electrical instructor at the Girard College, with the accompanying: "Statement please; why did you omit the time?" The message referred to bore the date of the 13th day of the month in the year of 1870.

We were favored by a visit from Mr. and Mrs. Gingrich, from Harrisburg.

Mr. J. T. Owen has returned from a long absence in the South and West, in time to sub for Mr. Thomas Poppert, who was a sufferer from the grip. Shortly after his return, Mr. Poppert was assigned the first Atlantic City local, on account of his good work there last season. Atlantic City business has already begun to boom. Lent, there, is a very busy season, and the hotel offices do a thriving trade.

Mr. James L. Barnum, from a down-town branch office, has been transferred to Atlantic City.

Mr. "New Papa" was asked, "Did you go to the Philopatrian's ball last night?" "No," was the reply, "we had a 'bawl' of our own all night."

An operator outside of Philadelphia insisted on sending it: "What ave clunces did you here from purtie here answer." After considerable persuasion, he was prevailed upon to make it: "What are chances? Did you hear from party here? Answer."

The well-known and popular receiving clerk, Mr. E. A. Burns, has just taken a life partner.

We extend our best wishes for his future happiness.

Manager W. L. Stanger, of the South Front street office, has just resumed his duties, after a painful experience with an immense carbuncle.

Wire thieves were very active on our lines near West Chester, and removed about 25 sections of copper wire. Prompt action on the part of the linemen soon restored the service.

Apparatus from the supply department has been received and set up, giving us five additional quad sets, to supply the increasing demands of business and leased wire service.

A large 100 wire cable has been laid in the underground ducts from the main office to the broker district, in order to relieve the congested condition of the loops running to the branches, newspaper and broker offices.

Mr. W. H. Duckett is a new arrival.

Over in Camden, the hustling qualities of Manager Auerbach are satisfactorily proven by the way in which business has increased.

**CHICAGO, ILL., WESTERN UNION.**

An operator was sending a message on Lincoln's ninety-second birthday, when the operator at the receiving end opened his key to remark he thought Lincoln dead.

Mr. J. W. Miller returned from an illness of several months' duration, February 11. He is looking more like the Miller of old, and the long rest has done its work.

Mr. William Brennan has been absent on a sick leave.

Mr. J. B. Kennedy has lost his little boy. Much sympathy is expressed for him. The burial took place at Omaha, Neb.

Miss Thompson has been quite sick with grip. During her absence her place was filled by Mr. O. B. Sims.

The body of Mr. C. E. Sherwood, late of the signal corps, who died in Cuba of yellow fever some months ago, has been reinterred in Illinois. His dying request to his brother, that he be buried at Kenosha, Wis., could not be fulfilled, as the State authorities of Wisconsin refused to allow the body to be interred there, so it was brought to Illinois.

Miss Gogan, of city lines, and Fred Case were united in marriage last week.

Mr. W. T. O. White is reported very ill at home.

Mr. Harry Austin is confined to the house with a severe sprain of the back.

Chief Operator Fry, of Grand Rapids, Mich., was a recent visitor.

**OTTAWA, ONT., GT. N'WESTERN TEL. CO.**

The Dominion Parliament of Canada opened on February 7, and found this company's office at the Government house fully equipped for the occasion. The report averages 100,000 words daily, which is handled by the experts of the profession. Though a famine is prevailing in this country for operators, the manager has secured the services of the following, who took part in the speed tournaments which occurred in this country a short time ago:

Days—Bud. Putnam, as chief, with Messrs. St.-Jacques, Burns, Geo. Thomas and Jake Kavanagh.

Nights—Col. Marshall, as chief, with Messrs. Geo. Moss, Christopher McLaughlin and Robert Robinson.

The Canadian press, which is handled at this office during the session, is neatly executed by Phillip Chapman, for the benefit of the members of the House of Commons.

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

Kansas City is the headquarters of Mr. G. E. Paine, superintendent of the third district, western division. Mr. S. H. Mudge is chief clerk. The personnel of the office is as follows: Mr. A. B. Richards, manager; L. M. Edwards, cashier; W. C. Morche, collector; H. L. Rhodes, day delivery clerk; C. Wood, night delivery clerk; W. Meinhardt, assistant delivery clerk; Miss K. Minsch, receiving clerk; Miss B. Bales, assistant receiving clerk; Miss Lena Van Camp, bookkeeper; Miss E. Wood, assistant bookkeeper.

The operating force as at present constituted is: B. F. Rommell, chief operator; Charles Falk, night chief; T. W. Ingram, assistant day chief; Bryant Fields, all night chief; G. C. Sperry, repeater chief on Logan leased San Francisco-Chicago wire; Geo. S. Palmer, repeater chief on New York-San Francisco and Chicago-San Francisco duplexes. Operators: M. H. McConaha and Washington Summers on first Chicago bonus wire; L. B. Tobin and Clyde Edwards, first St. Louis bonus wire; C. C. Holloway on west wires; Claude Reed, city circuits; Mrs. Alice Beery, Denver; Joseph Ingram, St. Louis commercial news department; J. H. Sprague, north wires; C. G. Keeler, Chicago, nights; John Hall, St. Louis, nights; Oscar Lander, G. E. Whitaker, Ernest Kaapcke and some half dozen extra men, all around; check boys, Robert Maupin and C. V. McNulty.

"Star" office: W. L. Moore, assisted by Messrs. Tobin and Lander on Saturday night, and Mr. Boyden, days.

"Times" office: E. B. Boyden. Messrs. Moore and Tobin help out at the Times during the sessions of Kansas and Missouri legislatures, which has caused special business to be quite active of late.

Mr. Lander has an outside assignment at a broker's office.

Stock yards branch: M. Swartz, manager; W. J. McKenzie, operator.

Board of Trade: H. Morlan, manager; Harry Hendricks and Arthur Braun, operators.

Office, broker district: H. C. Hill, manager; Vincent Thornton, operator.

Office, commission house district: Louis Lesem, manager.

Dry goods district branch: Miss Ella Mahaney.

At the Armour Packing Company, which uses the Postal wires, F. J. Dikes is manager of telegraph department, with operators E. W. Peck, J. D. Dickenson, J. C. Dobel and B. Ocker.

Swift & Company: E. W. Page, manager, Asher Bumgartner, operator.

Cudahy Packing Company: Mrs. H. E. Daniels.

Baltimore Hotel: Miss M. H. McGinnis, days; Miss Leora Colburn, nights.

Midland Hotel: Miss Helen Huegson, days; Miss Maude Mitchell, nights.

Coates House: Miss O. B. Jones, days; Miss Gill, nights.

Construction Department: J. J. Lynch is general foreman; Thomas W. Curphey, city foreman, with Linemen Edward Manning, Thomas Gowan and C. L. Lord. Arthur Kent is dynamo man.

Mr. G. E. Whittaker has resigned to accept a position with a broker.

Mr. George S. Palmer, repeater chief on the overland duplexes, has gone to Denver to act as chief operator during the illness of Chief J. B. Coggins at that point. Night Chief Falk and All Night Chief Fields will fill in Mr. Palmer's time while he is away.

#### BALTIMORE, MD., NOTES.

The tenth annual meeting of the Telegraphers' Mutual Aid Association was held February 6. The president's report showed that there was now in bank the sum of \$1,016.60, as against \$833.84 a year ago, and that the total benefits paid during the year amounted to \$409.25. The present membership is 110, five less than a year ago. The following officers were elected for the year 1901: A. K. V. Hull, president; J. W. Hyman, vice-president; A. Grape, treasurer; H. F. Meister, secretary. Directors: S. T. Shutt, A. Gentry, E. S. Anderson, Fred Miller, J. C. Hawkins, A. K. V. Hull, H. F. Meister. Auditing committee: S. T. Shutt, William Taylor, J. C. Wagner. Examiners: F. W. Ganger, H. C. Greene.

#### LOS ANGELES, CAL., POSTAL.

Business is booming. The average crop is being harvested, and the shippers are doing their usual amount of telegraphing. The hotels are crowded to their utmost capacity with Eastern tourists, who send letters by telegraph.

The personnel of this office is made up as follows: R. R. Haynes, manager; W. J. Wallis, chief operator, days; C. Merrell, assistant chief operator, days; Charles Lewis, night chief operator. Day force: Mrs. Hall and Messrs. Kubel, McIntosh, Nathaniel Firman. Night force: William Firman; Louis Hellman, extra operator.

#### LOS ANGELES, CAL., WESTERN UNION.

Business has increased to proportions unprecedented, and the force employed is the largest in the history of the office.

Two quads to San Francisco are kept hot all day, besides a duplex to Chicago, one to El Paso and Denver, with an increasing overflow.

A number of new arrivals from the East and San Francisco have been employed, and still the force seems to be too small to reduce the overtime.

The hotels are full of tourists, and the rapid development of the oil business is the only solution for the sudden increase in business.

#### CHICAGO, ILL., POSTAL.

"Wallie" Lincoln has been made late night chief, succeeding H. G. Samuels, who has taken a position with a prominent grain brokerage firm. A. E. Wilder, a young man of much promise, who has been working the Washington wire, days, for some

time, secures the position of assistant chief of the Southwestern division, made vacant by the transfer of S. J. Thomas to the position of assistant in the New York division.

John C. Duffy, who has been quite ill for a month, has returned to his duties again, and everybody is glad to see him once more.

Business is quite slow at present, and the 9:15 split men "ask off" quite early these nights.

PHILADELPHIA, PA., WESTERN UNION.

Owing to the critical and probably fatal illness of his aged mother, Mr. D. C. Shaw was suddenly called to his home recently at Bath, Me.

Mr. E. C. Abrams, well known to the fraternity at large, has resigned as sporting editor of the North American, and is again at his old post as day editor for The Associated Press, vice Mr. Samuel Warnock, resigned, to accept a position on the reportorial staff of the Press.

Mr. Robert Atkinson is the proud father of a boy.

Mr. J. E. Torpey, of the Philadelphia, Reading and Pottsville Telegraph Company staff, has been transferred to the main office, Twelfth and Market streets. Mr. William Darren is the new man here.

Since the military has relinquished control of the telegraph lines in Porto Rico, C. F. Happersett, who was in the United States Signal Service, and who is well known here, has been made manager of the San Juan main office. Mr. Happersett writes very glowingly of his future prosperity, and his friends here wish him success.

Don't forget the Aid Society's progressive euchre, hop and banquet on April 10.

CINCINNATI, OHIO, POSTAL.

Manager E. W. Collins, of Cleveland, and Mr. W. L. Truesdell, of Columbus, stopped over in this city for a couple of days, on their way to Chicago.

Mr. O. B. Vasche has resigned, to accept a position with the Western Union.

Mr. George A. Stulz resigned lately, to take a position with a broker.

Mr. James E. Neville has been promoted to be traffic chief, vice G. A. Stulz, resigned.

Arrivals: J. H. Carroll, of the Postal, Lima, Ohio; Mr. Harry Brown, of the Western Union, Hamilton, Ohio, and Mr. Joseph Chuck, of the Western Union, this city.

Mr. Joseph Ewers has been assigned to the 206 West Sixth street branch, vice Mr. John Segger, transferred to the main office.

Mr. Guy S. Warren, of the cashier's office, Chicago, spent a day here before going to Lexington, Ky., where he was married to Miss Katherine McCreary Bronston. The marriage was one of the most brilliant affairs Lexington has seen.

Mr. P. H. Conroy, former chief clerk to Superintendent Conger, is now our Chicago auditor and inspector.

ST. LOUIS, MO., WESTERN UNION.

The latest arrivals are the Misses Anna Dean, Tillie Seeger, Elsie Tanner, and Messrs. Leon Dille and T. J. McCarthy. The latter left here about a year ago for the West, where he sought and found some relief for weak lungs.

Mr. Augustus Bloom, who, until about a year ago worked here, died in St. Louis of consumption, February 11.

An order for two gross of Carrie Nation "hatchets" passed through St. Louis recently.

Mr. Louis Schofield, our chief clerk, was confined to his home for several days during the latter part of January with an attack of lumbago. Mr. Joseph Holle filled his place very nicely.

Mr. E. Howard, manager of the Memphis, Tenn., Western Union office, was a visitor here on January 22.

Thirteen dollars was received here by Mr. J. J. Lane, from Mr. E. W. H. Cogley, of The Associated Press, New York, for the Mortimer D. Shaw fund, a full statement of the disposition of which fund will appear in the March 16th issue of TELEGRAPH AGE. Peculiarly enough, a like amount was received from the St. Louis Postal Company's employes. Many thanks are due to Mr. Cogley and the New York boys, and also to Mr. Edward Altemus and the Postal boys, for their generous contributions to this fund. Mr. Shaw's remains were taken to Sumner, Ill., January 25, and re-interred there, under the direction of Mr. Alexander Frazier, of this office.

NEW ORLEANS, LA., WESTERN UNION.

The recent Carnival here was the grandest ever known. The weather was perfect, and everybody appeared to be happy. Great crowds were present. Among the visitors were: J. M. Stephens and wife, Atlanta, Ga.; J. B. Taltavall, New York; F. C. Annett, Chicago; Mrs. Julia Quarles and Mrs. Stewart, Scooba, Miss.; Miss Estelle Meriwether, daughter of the late Superintendent Meriwether, Atlanta, Ga.; Mr. Fountain, manager Western Union, New Iberia, La.; Miss Isabelle Weinberg, Galveston, Texas; Mr. Le Roy Griffin, Montgomery, Ala.; Misses Katie and Lulu Madison, and Mr. and Mrs. O. A. Baker, Ocean Springs, Miss.; J. W. Bradley, Hattiesburg, Miss.; Miss Katherine Rohling, Galveston, Texas; Miss Eleanor Roy, Donaldsonville, La.; Miss Nettie Bonny, Franklin, La., en route to Los Angeles, Cal.; Manager Newton and wife, San Antonio, Texas; Mrs. W. H. Hunter, Minden, La.; Mrs. Charles A. Kicke and sister, Galveston,

#### Beware of Ointments for Catarrh that Contain Mercury,

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

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

Texas; Willie Hess, Atlanta, Ga.; Victor Crooker, Memphis, Tenn.; Mrs. C. H. Haight and daughter.

Credit is due Messrs. Vidal, French and Elliott for the beautiful Carnival weather. These gentlemen, who look after the signal circuits, called on the local Weather Department, and had it thoroughly understood with that gentleman that there was to be nothing but perfect weather in honor of the thousands of strangers.

#### BOSTON, MASS., POSTAL.

Night Chief Operator C. J. Foley, has the sympathy of his many friends in the death of Mrs. Foley, which occurred February 16. Mrs. Foley had been a sufferer for a long time, and her death was not unexpected.

Mr. E. Dooner, formerly a check at the main office, has been promoted to be operator at the Devonshire building.

Mr. H. P. Ruffee, who has been ill for a few weeks, has returned to duty.

Mr. E. E. Wolfe, in charge of the Herald office nights, is also back again, after a short attack of the grip.

Messrs. Frank C. and Charles Gilfillan, formerly with this company, but now managers of broker offices in Connecticut, were in town on Washington's birthday for a few days of recreation.

Mr. John D. Shoemaker is now with Jackson & Curtis in the Stock Exchange, Bangs & Co., his former employers, having gone out of business.

Mr. H. L. Fishacher, from a broker firm, is a recent addition to our force.

#### NEW YORK, POSTAL.

Mr. O. H. Davidson has returned to duty after a three weeks' illness with bronchitis.

Mr. E. A. Goshert, of the Philadelphia bonus wire, resigned, to accept a position with The Associated Press.

Messrs. Thomas Flynn, John Downey and William Collins have resigned, to engage in business elsewhere.

Mr. A. M. Routt has been assigned to the Chicago bonus wire.

Mr. J. E. Pucci has been assigned to the newspaper local wires.

The health of the employes is generally much improved at the present time, very few being away on account of illness.

Mr. H. E. Wilson, manager of the messenger receiving and delivery departments of the Postal, for 253 Broadway, and branches, has resigned, to take effect March 1, to engage in the restaurant business. Mr. Wilson rose from the messenger ranks to the position of manager of the departments named by his ability and faithful performance of duty. He was six years in the sugar district, seven years at 151 Front street, two years at 1260 Broadway, and three years at 253 Broadway. He has the best wishes of all his Postal friends in his new enterprise.

Business is unusually good, considering that February is considered the dull month.

Mr. P. A. Casey has been assigned from the split trick to the regular night force.

Mr. Earl A. Ramsay has been transferred to the 7 a. m. trick.

Mr. William Black was recently transferred from the 8 a. m. to the 9:30 a. m. trick.

Messrs. Egan and Goodrich have been assigned to the Buffalo bonus wire.

Mr. W. C. Wooten has been transferred from the Philadelphia day bonus wire to the same wire nights.

Mr. E. M. Clowes has been transferred from the split trick to the regular night force.

Mr. Joseph Terrell has resigned, to accept a position in the telegraph department of the American Tin Plate Co., this city.

The death of the infant son of Mr. and Mrs. J. H. Havice, on February 12, has awakened an expression of general sympathy throughout the force.

The Postal branch at 274 Columbus avenue, corner of Seventy-fourth street, is under the management of Mr. Edward LeSeur, a veteran in the Postal service, having served seven years at the Consolidated Exchange, two years at the Barrett House, and seven years at the 274 Columbus avenue office, he being its first and only manager. Mr. Emil Michelfelder is in charge nights.

Mr. H. E. Wilson, formerly manager of the messenger department, Postal Telegraph-Cable Company, has opened a restaurant at 52 Park Place, in connection with Mr. P. F. McGann, a man of long experience as a caterer, under the firm name of Wilson & McGann. (Adv.)

#### NEW YORK, WESTERN UNION.

Mr. Edward Mesler, president of the Telegraphers' Aid Society, recently remarked regarding its condition: "Mr. William J. Quinn, the secretary, and myself have been kept busy this winter promoting the affairs of this society. It is in an excellent condition, having a membership of about 1,400, showing a gain of 119 new members since the last election." Considerable interest is being revived in the coming election.

Mr. William Calvert has been absent over a month, owing to sickness. There is but little improvement in his condition.

Mr. Perry Irish has been absent during the past two weeks, also on account of illness.

Mr. James O'Donell, formerly of this office, is now doing duty in China, as Sergeant of the United States Signal Corps.

A typewriter of a peculiar pattern, needing repairs, was sent from "195" to a repairman. On its return, the man informed the owner that it was a wonder. He found two rats imprisoned in it on opening his shop.

Messrs. Irving Youman and Samuel Abrahams were appointed as operators at 1053 Third avenue, vice Messrs. Purcell and Rath, resigned.

Mr. John M. Casey, formerly of this office, and who left here November 23, is now working at Denver, Col.

Excellent photographs, heavily mounted, of Brooklyn bridge and vicinity, 11 x 14 inches, can be had of Albert E. Sink, 195 Broadway, New York, for 60 cents in stamps or coin. (Adv.)

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.)

Typewriters expressed or sent to our shop, repaired or rebuilt at lowest prices for operators. Cylinders, ribbons, at reduced prices; machines bought, sold and rented. Wall & Butler, 57 Dey street, New York. (Adv.)

AUGUSTA, GA., WESTERN UNION.

Eugene W. Hudson, for a number of years an operator here, died at Apex, N. C., his home, February 22, in the twenty-sixth year of his age. He was a fine fellow, highly esteemed, and the Augusta force sent a handsome floral design as a testimonial of affection on the day of the funeral.

A daughter was born to Mr. and Mrs. George W. Hammell on February 4.

#### Regarding Telegraphers.

A correspondent who addresses a note to the Lowell (Mass.) Sun, requesting certain facts regarding the position of the average telegraph operator, the telegraph operator for that journal, Mr. C. F. Whitney, replies as follows:

The average salary of a telegraph operator is \$80 per month; ranging from \$30 for a railroad telegrapher to \$125 per month for a "Press" operator. It requires at least a year's hard study and constant practice to become even proficient enough to receive words and simple sentences, as well as send. After that it requires still more practice in order to develop quickness of thought and a good memory, for telegraphy relies almost wholly on the memory. Besides this, a quick and plain penmanship, as well as experience as a typewriter operator is necessary. The telegraph companies prefer operators who can use a typewriter, and in large offices will not engage any one who cannot use one. The operator must furnish his own typewriting machine also. In the press service the typewriter is absolutely necessary, because of the great speed in which the telegraphic characters are sent over the wires, and also because of a system of abbreviations which reduces all words to an average of three letters, which is used in order to get as much news as possible to the newspapers, and in as short a time as possible. When it is considered that 10,000 words must be disposed of within seven hours, you can figure how many words an hour is sent. At night it is even faster, an average of 12,000 words for the same number of hours. This branch of telegraphy is only attained by the most expert and experienced telegraphers, those who have been long in the business, and is therefore the highest salaried.

Women telegraphers, if they are capable of the same class of work as men, receive the same salary, but there are few women in the press service.

It is usually difficult to obtain a practical telegraphic education, owing to the many technicalities which can only be obtained by learning the business in a telegraph office, and such positions

are scarce. So-called telegraph schools, while they teach the theory and give an idea of the practice, are not a good investment for the time or money, as graduates from these schools are not looked upon with favor by officials of the telegraph companies; and if they learn that the applicant is a graduate of one of these schools they generally dismiss the thought of engaging him. And even if a graduate is engaged, he generally finds that there are lots of little points which he has to learn and which the school never mentioned. The best age to begin the study, however, is between eighteen and twenty-one years, as the mind at that time is more quick to grasp and retain. It is a clean but very confining position.

#### Berliner Patent Case Decision.

Judge Brown, of the United States Circuit Court, at Boston, Mass., February 27, decided against the American Bell Telephone Company in the famous Berliner patent case. The suits were the Bell company against the National Telephone Manufacturing Company and others, and the same against the Century Telephone Company, brought to restrain respondents from selling, using or making telephones or telephonic apparatus with the microphone attachment, and to account to the Bell company for past use, manufacture and sales upon the ground that such use, manufacture or sale was an infringement of patent.

The cases were argued before Judge Brown a year and a half ago, and as they related to the same patent—the microphone—were put in together and were tried as if they were one case.

The Berliner patent has been considered one of the most important held by the Bell company, and it does not expire until November 17, 1908. The patent is the same one that has been before the courts in the case of the United States against the Bell Telephone Company, where it was held that the patent was not invalid on account of delay at the Patent Office.

The whole case turns upon the validity of this patent, the defense having set up, among other allegations, the invalidity of the patent, its lack of invention, anticipation and non-patentability.

It is understood that an appeal will be made from the decision, and that the case will be carried to the United States Supreme Court upon this appeal.

T. M. B. Association.—Assessment No. 376 has been levied to meet the claims arising from the deaths of Frank R. Steele, at San Francisco, Cal.; William H. Weller, at La Porte, Ind.; Mrs. Lizzie H. Strong, at Plymouth, Mass.; James L. Fisher, at Millard, Mo., and Charles P. Dwight, at Toronto, Ont.

A bill compelling all telegraph, telephone and electric light companies to place their wires in underground subways in the cities of the first and second classes in the State of New York, has been introduced in the Assembly.

**Coal and Cables.**

Capt. George O. Squier, of the United States Signal Corps, has recently pointed out in the National Geographic Magazine that the story of the Spanish-American war is largely one of "coal and cables." He has brought out the little known fact that Admiral Cervera's failure to receive at Martinique two cable messages from Spain, informing him of a coal supply near at hand, and giving him permission to return to Spain at once, changed the whole history of the contest. Cervera's return to Spain would have caused a land attack upon Havana, operations upon the coast of Spain, and similar undertakings.

While the American action in cutting the cables of neutral nations was at first deemed in some quarters a violation of international rights, it is now admitted that where these lines are the means of communication of a belligerent nation, such action is allowable and defensible, according to the law of nations. Hence, as Captain Squier points out, has come the feeling that in the future cable stations must be fortified and vigorously guarded from naval attack, and every effort made to prevent the grappling and cutting of cables near shore.

Evidences appear to multiply that there is good ground for the report published recently regarding the intention of the Canadian Government to nationalize the Canadian telegraph and telephone systems. The report is most insistent that negotiations are already well advanced looking to the acquisition of the Great Northwestern Telegraph system, the Canadian connection of the Western Union.

Professor Slaby, of the Technische Hochschule, Berlin, Germany, says that he expects to revolutionize telegraphy if he is successful in applying his etheric system, which he calls spark telegraphy, to the present system of transmission by wire. He says that thousands of telegrams could then be transmitted simultaneously by the same wire, but that the immediate future does not promise an improvement in the cost of conduction.

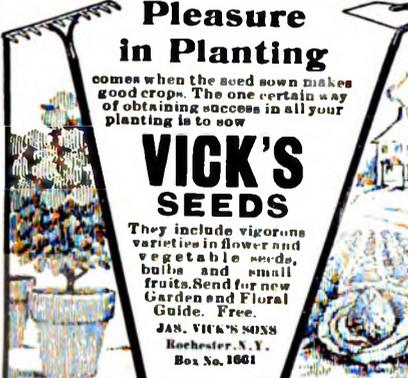
TELEGRAPH AGE should go regularly to every one interested in the telegraph.

**A Business of Your Own.**

Any bookkeeper, stenographer, clerk or telegrapher can increase his earnings from \$50 to \$100 per month conducting a mail order business, and it need not interfere with his regular work. A mail order business can be attended to evenings and spare time, and made to yield a good income. Our new book, "A Mail Order Hand Book," tells you how to start with little or no capital, gives names and addresses of manufacturers, jobbers and wholesale dealers in mail order goods, classified list of advertising mediums, tells you how and where to advertise, gives list of reliable advertising agents, and all "pointers" and information necessary to start and successfully conduct a mail order business. This valuable book will be mailed postpaid upon receipt of \$1. St. Louis Trade Supply Co., 735 Aubert avenue, St. Louis, Mo. (Adv.)

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

**Pleasure in Planting**  
 comes when the seed sown makes good crops. The one certain way of obtaining success in all your planting is to sow  
**VICK'S SEEDS**  
 They include vigorous varieties in flower and vegetable seeds, bulbs and small fruits. Send for new Garden and Floral Guide. Free.  
 JAS. VICK'S SONS  
 Rochester, N. Y.  
 Box No. 1661



**Taltavall's Telegraphers of To-day.** Descriptive, historical and biographical. 355 pages and 700 engravings of the prominent telegraph people. Price, \$5.00, expressage prepaid. Address J. B. Taltavall, 253 Broadway, New York.

**The Modern Service of Commercial and Railway Telegraphy** (8th Edition, revised and enlarged), by J. P. Abernethy. The theory and practice, including railway station and express service. Arranged in questions and answers. 425 pages, 40 illustrations. Price \$2.00, expressage prepaid. Address John B. Taltavall, The Telegraph Age, 253 Broadway New York.

"The Standard Work on Telegraphy."

**AMERICAN TELEGRAPHY:**  
**SYSTEMS, APPARATUS, OPERATION.**

450 Diagrams, 575 Pages, 34 Chapters.  
 By **WILLIAM MAVER, Jr.**

Bound in Cloth, . . . . \$3.50  
 Sent, express charges prepaid, to any part of the world upon receipt of price.

**J. B. TALTAVALL,**  
 The Telegraph Age,  
 253 Broadway, NEW YORK.

**IMPORTANT TO YOU**  
 J. S. TOWNSEND—The Telegraphers' Jeweler, 1554 Wabash Ave., Chicago, offers any article in his elegant stock at net wholesale prices. A rare opportunity. Any watches or jewelry advertised can be bought at a lower price from this well known firm, J. S. TOWNSEND, 1554 Wabash Ave., Chicago. Our 400-page catalogue sent on application. Agents wanted. Established 1877.

**JEWETT**



**THE TELEGRAPHERS' TYPEWRITER.** Popular because of instantaneous paper feed facility for inserting characters and correcting errors. The new Model No. 4 is without a peer.  
**JEWETT TYPEWRITER CO.**  
 New York Office, 200 BROADWAY. DES MOINES, IOWA.

**TYPEWRITERS FOR SALE, TO RENT AND REPAIRED,** Remington, Smith, Densmore and all makes sold or rented on easy monthly terms to telegraphers. Send for samples, catalogues and full information to E. M. Bennett, Manager, THE TYPEWRITER EXCHANGE, 38 Bromfield Street, Boston, Mass.

# SEAL

## OF NORTH CAROLINA PLUG CUT

is a mild, cool, mellow and satisfying tobacco of the highest quality and is the most popular and largest selling brand of "plug cut" smoking tobacco in the world! The reason for this is that the leaf that "Seal" is made of is cured in its own native climate—in the sunshine and balmy atmosphere of the southern states, where pipe tobacco originated. A full size trial pouch will be sent by return mail on receipt of ten cents in postage stamps by  
**The American Tobacco Co.,**  
 111 Fifth Avenue, New York, N. Y.

## THE EDISON PHONOPLEX SYSTEM OF TELEGRAPHY

**INSURES CONSTANT COMMUNICATION.**

It **WORKS** through all kinds of trouble and weather.  
**Are you using it? If not, write to its patrons and ascertain their opinion of it.**

**SOME USERS OF THE PHONOPLEX SYSTEM:**

- |   |  |
|---|--|
| Western Union Telegraph Co.<br>Illinois Central R. R. Co.<br>Boston & Maine Railroad.<br>New York, New Haven & Hartford R. R. Co.<br>Lehigh Valley R. R. Co.<br>Central Railroad of New Jersey.<br>Baltimore & Ohio R. R. Co.<br>Baltimore & Ohio & Southwestern R. R. Co.<br>Pennsylvania R. R. Co.<br>Union Pacific R. R. Co. | Kansas City, Fort Scott & Memphis R. R. Co.<br>Kansas City, Council Bluffs & Omaha R. R. Co.<br>Colorado Midland R. R. Co.<br>Central of Georgia R. R. Co.<br>Chicago & Grand Trunk Railway.<br>Standard Oil Co.<br>Tide Water Pipe Line.<br>Atchafson, Topeka & Santa Fe R. R. Co.<br>Southern California Railway Division.<br>Atlantic & Pacific Division. |
|---|--|

Catalogue and Further Information upon Application **THOMAS A. EDISON, Orange, N. J.**

## THE IDEAL SIGHT RESTORER



**WE RESTORE SIGHT!**  
**CLASSES RENDER DEFECTIVE VISION CHRONIC.**  
 Write for our **ILLUSTRATED TREATISE, Mailed Free.**  
**THE IDEAL COMPANY,**  
 239 BROADWAY, NEW YORK.





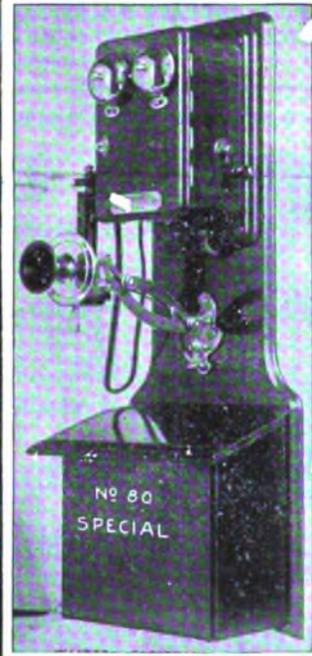
I have used Piso's Cure for Consumption for colds, and found it a splendid medicine, as it gives instant and (when taken according to directions) lasting relief, and I would recommend it to all who are so troubled.—**R. J. COYNE, Directory Department of Chicago Post Office, Chicago, Illinois, April 7th, 1899.**

**Maver's American Telegraphy.** A thorough Encyclopedia of the Telegraph. Over 600 pages, 450 illustrations. Price, \$3.50, express charges prepaid. Address **J. B. Taltavall, 253 Broadway, New York.**

**The Modern Service of Commercial and Railway Telegraphy** (8th Edition, revised and enlarged), by **J. P. Abernethy.** The theory and practice, including railway station and express service. Arranged in questions and answers. 425 pages, 40 illustrations. Price \$2.00, expressage prepaid. Address **John B. Taltavall, The Telegraph Age 253 Broadway, New York.**



**OUR FREE BUGGY OFFER.** WE SELL BUGGIES, CARRIAGES and all kinds of vehicles at very much lower prices than you can buy elsewhere. We send the goods to any address by freight C. O. D., subject to examination, payable after received, examined and found far greater value than offered by any other house. Don't buy a buggy, surrey or rig of any kind until you get our new 1901 Buggy Catalogue. Cut this ad out and send to us at once and we will send you the new 1901 Buggy Catalogue by return mail. Address: **SEARS, ROEBUCK & CO., Chicago.**



## TELEPHONES

**FOR LONG LINES  
 SHORT LINES  
 PRIVATE LINES  
 EXCHANGE LINES  
 TOLL LINES**

**and All Lines of Business**

YOU KNOW THE KIND:

## The STANDARD.

A CRITERION OF EXCELLENCE.

**Standard Telephone & Electric Company**  
**MADISON, WIS.**





**Pabst**  
**Malt Extract**  
The Best Tonic

Q—What is the man in the window doing?

A—He is taking out a bottle of Pabst Malt Extract, The "Best" Tonic.

Q—What is he going to do with it?

A—He has sold it to a customer.

Q—Why does the customer buy The "Best" Tonic?

A—Because it is a perfect health restorer. It builds up the run down system, it restores the tired and nervous to health, strength and that comfort and happiness which come from perfect mental and physical equilibrium.

Q—Do druggists sell much of The "Best" Tonic?

A—Yes, more than any other malt preparation. Many of them give their entire window to such a display as this one.

Q—Who makes The "Best" Tonic?

A—It is carefully and scientifically prepared under medical supervision by  
**PABST BREWING CO.**  
(Tonic Dept.) Milwaukee, Wis.

**Secret Sounders**

FOR TELEGRAPH WORK.

PRICE, \$5.00.

Invaluable in newspaper and broker offices. Easily adjusted, strong, durable and simple.

ADDRESS,

JOHN B. TALTAVALL,

THE TELEGRAPH AGE. 253 B'way, N. Y.

NEW LIST  
OF  
**PRESENTS**  
FOR  
**TOBACCO TAGS**

IS NOW READY FOR DISTRIBUTION

"STAR" and "E. Rice, Greenville" tin tags (printed in colors on under side of tags), "Horse Shoe," "J. T.," "Good Luck," "Cross Bow," "Drummond" Natural Leaf, "Spear Head," "Old Honesty," "Master Workman," "Sickle," "Nobby Spun Roll," "Brandy Wine" tin tags, and tin tags from "Standard Navy" and paper tags from "Planet" and "Neptune" Plug are of equal value in securing Presents and may be assorted.

If you have not already received one of the handsome Catalogues, illustrating all of the useful and valuable Presents offered, send in your name and address and a Catalogue will be sent to you, FREE.

**Continental Tobacco Company.**

Write for Catalogue and send tags and requests for Presents to

**C. Hy BROWN,** 4241 Folsom Ave., ST. LOUIS, MO.

**GOLD AND STOCK LIFE INSURANCE ASSOCIATION**

TWENTY-FOURTH YEAR.

For Telegraphers and Others in Electrical Service.

INITIATION FEE, \$1.00; DUES, 50 Cents per Month; INSURANCE, \$500.00, in payments of \$50.00 per Month for Ten Consecutive Months.

WM. J. DEALY, Secretary, 195 Broadway, New York

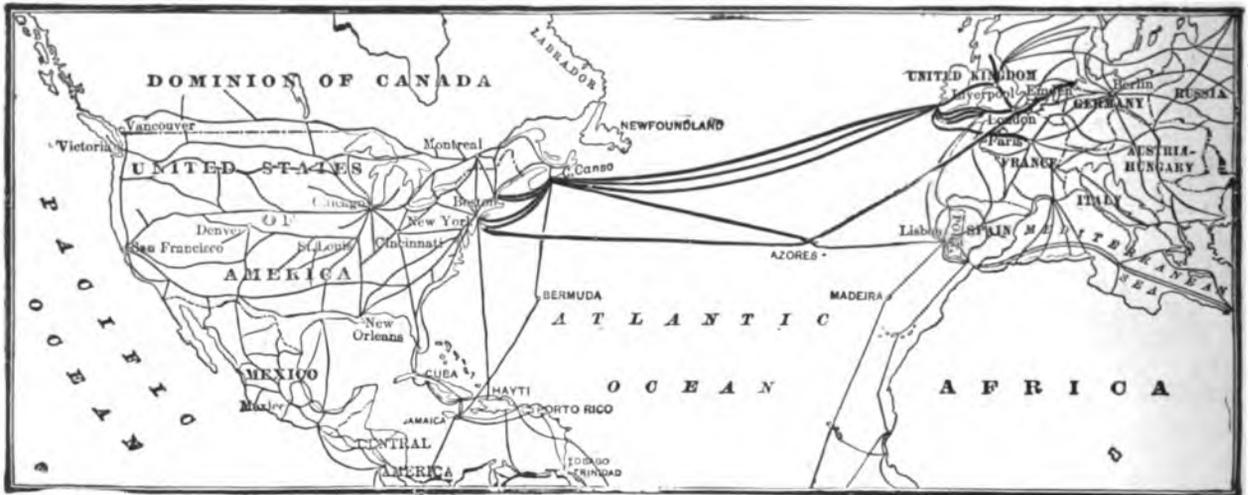


# COMMERCIAL CABLE CO.

Four Duplexed and Automatically Operated Atlantic Cables

IN CONNECTION WITH

POSTAL TELEGRAPH-CABLE COMPANY,  
CANADIAN PACIFIC RAILWAY TELEGRAPHS,  
HALIFAX & BERMUDAS CABLE COMPANY,  
DIRECT WEST INDIA CABLE COMPANY,  
DEUTSCH-ATLANTISCHE TELEGRAPHEN-GESELLSCHAFT  
(GERMAN ATLANTIC CABLE COMPANY).



EXECUTIVE OFFICES,  
POSTAL TELEGRAPH BUILDING, N. Y.

JOHN W. MACKAY, PRESIDENT.  
GEO. G. WARD, VICE-PRES. & GEN'L MANAG.

## Postal Telegraph=Cable Company.

EXECUTIVE OFFICES,  
253 Broadway,

NEW YORK, October 1st, 1900.

### TO OUR PATRONS:

Persistent rumors are in circulation regarding a pending combination of the Postal Telegraph-Cable Company, Commercial Cable Company, Western Union Telegraph Company, and American Bell Telephone Company with the Telephone, Telegraph and Cable Company of America.

The officers of the Postal Telegraph-Cable Company and of the Commercial Cable Company deny emphatically that either company is contemplating any such combination and state that the control of the Postal Telegraph-Cable Company and of the Commercial Cable Company is not for sale.

Very respectfully,

POSTAL TELEGRAPH-CABLE COMPANY

By

WM. H. BAKER,

*Vice-Prest. and Genl. Manager.*

(Remember to mention TELEGRAPH AGE when corresponding with advertisers)

---



---

# WESTERN UNION TELEGRAPH COMPANY

EXECUTIVE OFFICES:

195 BROADWAY, NEW YORK.

---



---

THOS. T. ECKERT, President and General Manager.

---



---

THE LARGEST TELEGRAPHIC SYSTEM IN EXISTENCE

---



---

900,000 MILES OF WIRE. 22,500 OFFICES.

---



---

## TWO AMERICAN ATLANTIC CABLES

New York City to Penzance, England, direct. Both cables are duplexed. Connect also with FOUR ANGLO-AMERICAN and one DIRECT UNITED STATES CABLES. Direct communication with GERMANY and FRANCE. DIRECT WIRES to GALVESTON, TEXAS, connecting at that place with the Cables of the MEXICAN, the CENTRAL and SOUTH AMERICAN TELEGRAPH COMPANIES for

ALL POINTS in MEXICO and CENTRAL and SOUTH AMERICA.

DIRECT WIRES and CABLES to HAVANA, CUBA, connecting at that place with the CUBA SUBMARINE and WEST INDIA AND PANAMA TELEGRAPH COMPANIES for

ALL POINTS IN THE WEST INDIES.

---



---

Exclusive connection with the Great North-Western Telegraph Company of Canada.

---



---

Offices in Great Britain :

252 Gresham House, Old Broad Street, London, E. C.

40 Mark Lane, London, E. C.  
 21 Royal Exchange, London, E. C.  
 109 Fenchurch Street, London, E. C.  
 22 Abchurch Lane, London, E. C.  
 106 George Street, Strand, London, W. C.  
 2 Northumberland Avenue, London, W. C.  
 15, Exchange Buildings, Liverpool.  
 10, Colquhoun Chambers, Baldwin Street, Bristol.

29 Gordon Street, Glasgow.  
 10 Forster Square, Bradford.  
 1 Panmure Street, Dundee.  
 106 George Street, Edinburgh.  
 Exchange Buildings, Leith.  
 7 Royal Exchange, Bank Street, Manchester.  
 1 Side, Newcastle-on-Tyne.

# BLICKENS DERFER No. 5.



Low Price.

Full Key-Board.

Writing Always in Sight.

Portability.

Excellent Manifold.

Direct Printing and Inking.

Interchangeable Type.

Most Durable Machine Made.

Least Number of Parts.

Weight, Six Pounds.

OFFICIALLY ADOPTED

by the

POSTAL TELEGRAPH-  
CABLE COMPANY.

OFFICIALLY ADOPTED

by the

WESTERN UNION  
TELEGRAPH COMPANY.

Price and Terms . . . Address, **BLICKENS DERFER M'FG CO., Stamford, Conn.**

## FRANKLIN TYPEWRITER

VISIBLE WRITING.

Perfect Alignment. Simplicity. Durability and Speed.

## FRANKLIN TYPEWRITER

812-814 Greenwich Street, New York.



Received Only Medals Awarded World's Fair, Chicago, 1893.

## COVERING INSULATED WIRES AND CABLES,

FOR

Aerial, Underground,  
Submarine and Interior Use.

### KERITE TAPE.

Catalogues, Samples and Prices on Application.



TRADE MARK.

FOR

Telephone, Telegraph, Power and Lighting.

**W. R. BRIXEY,**  
MANUFACTURER.

**203 BROADWAY, NEW YORK.**

CALIFORNIA ELECTRIC WORKS,  
San Francisco, Cal.



Telegraph Operators  
will find that the

### NUMBER FOUR YOST LATEST MODEL

contains many improvements  
that are of special advantage  
in their work.

**YOST WRITING MACHINE CO.,**

No. 316 Broadway, New York.

## THE WESTON STANDARD VOLTMETERS AND AMMETERS.



The Weston Standard Mill-Ammeters and Ammeters are infinitely superior to galvanometers for tests of current strength on lines and for tests of Relays, Sounders and other Telegraphic Apparatus. They are direct-reading, dead-beat, and are practically uninfluenced by the earth's field. No constants are required, and with careful use there is no necessity for recalibration. The Weston Standard Voltmeters are the very best practical instruments obtainable for determining the electro-motive force of single cells, or series of cells, or for ascertaining the voltage on lines. By the proper use of these instruments all tests of resistance, current, strength and electro-motive force required in telegraphic practice can be made with great ease and accuracy. Correspondence solicited.

**WESTON ELECTRICAL INSTRUMENT COMPANY,**

114-120 William Street, NEWARK, N. J.

BERLIN: European Weston Electrical Instrument Co., Ritterstrasse No. 88.

LONDON: Elliott Bros., No. 101 St. Martin's Lane.



WE DON'T SPEND  
The Almighty \$

to advertise cheap goods. There is no trick in making or selling them; the best is none too good, though we have been told N. I. R. is.

# TELEGRAPH AGE.

A SEMI-MONTHLY JOURNAL DEVOTED TO TELEGRAPHY

Single Copies, 10 cts.

ESTABLISHED 1883.

\$1 50 per year.

Vol. XXIV—No. 6.

NEW YORK, MARCH 16, 1901.

Whole No. 428.



## NEW STANDARD DRY CELLS.

OF THE U. S. NAVY AND THE WORLD.

The price is as low as any; durability, FOUR to ONE over any other make. When you use them once you will want no other. NECKTIE PIN outfit by mail \$1.00.

**WILLIAM ROCHE,** Inventor and Sole Manfr.,  
42 Vesey St., New York.

**C** OPIES of every Electrical or Telegraph Book published can be obtained by addressing  
**TELEGRAPH AGE,**  
253 Broadway, New York.

1889.

PARIS EXPOSITION MEDAL FOR RUBBER INSULATION.



1893.

WORLD'S FAIR MEDAL FOR RUBBER INSULATION.

THE STANDARD FOR RUBBER INSULATION.  
SOLE MANUFACTURERS OF

**Okonite Wires, Okonite Tape, Manson Tape, Candee Weatherproof Wires.**

Write for prices.  
**WILLARD L. CANDEE,** } MANAGERS  
**H. DURANT CHEEVER,** }

**THE OKONITE CO., LTD.**

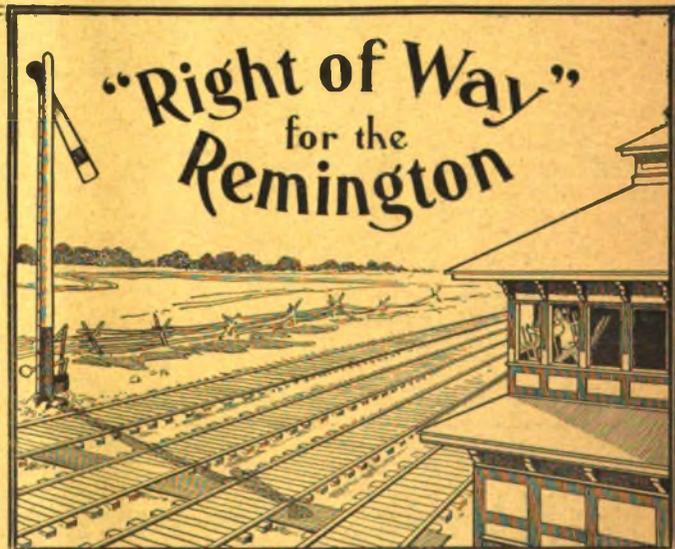
**258 Broadway, New York.**  
**GEO. T. MANSON, GEN'L SUPT.**  
**W. H. HODGINS, SECY.**

## Consider Facts Like These!

The Southern Pacific Company uses over 500 Remington Typewriters; many times more than all other makes combined.

84 per cent. of all the typewriters used by the great railroads of the country are Remingtons.

Our popular illustrated folder, "Right of Way for the Remington," containing full particulars, will be forwarded on request.



Reliability and adaptability to ALL classes of work are the qualities which make

## REMINGTON TYPEWRITERS

the standard everywhere

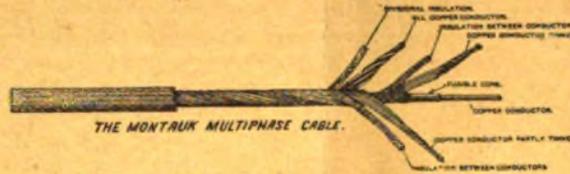
WYCKOFF, SEAMANS & BENEDICT,

327 BROADWAY, NEW YORK

# THE MONTAUK MULTIPHASE CABLE

## IS A FIRE AND BURGLAR DETECTIVE WHICH NEVER SLEEPS,

And therefore gives greater security than you could have by placing a human detective in every closet in every room of your house. By its use, the ordinary electric service wires of a building become also a

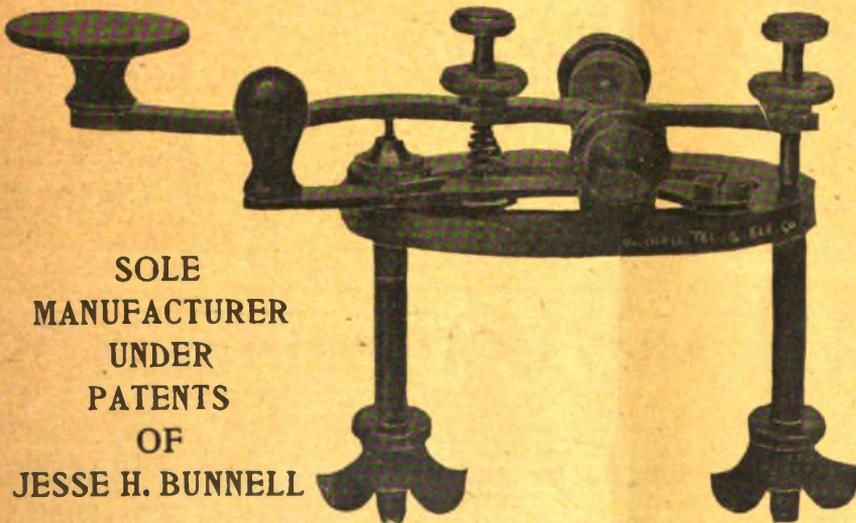


fire detective force. Values are cared for, lives are saved, business interruptions prevented and ease of mind and sense of security are given without additional cost of operation or maintenance.

**THE MONTAUK MULTIPHASE CABLE COMPANY,**  
100 BROADWAY, NEW YORK.

# THE BUNNELL TELEGRAPHIC AND ELECTRICAL CO.

110, 112, 114 and 116 Beekman Street, New York City



SOLE  
MANUFACTURER  
UNDER  
PATENTS  
OF  
JESSE H. BUNNELL

We Manufacture  
TELEGRAPH,  
TELEPHONE,  
ELECTRICAL and  
RAILWAY SUPPLIES.

SEND FOR PRICES.

Catalogues and Learner's  
Manual Free on Application.

We do not pay Express  
Charges.

STEEL LEVER KEY (WITH LEGS), 90c.

# DYNAMOTORS FOR TELEGRAPH WORK

The Lundell Motor-Generators used in telegraph offices are of the highest degree of excellence. Non-sparking, compact and reliable. They have self-oiling bearings, perfect insulation, evenness of current and good regulation of voltage, and are made in various sizes with speeds and voltages to suit all conditions of work. Correspondence invited.

## SPRAGUE ELECTRIC COMPANY,

NEW YORK.

CHICAGO.

BOSTON.

ST. LOUIS.

BALTIMORE.

TRADE MARK  
**"Chloride Accumulator"**

REGISTERED SEPTEMBER 11, 1894.

Over 25,000 Cells are in Operation by the Western Union, Postal, Gamewell, and other Companies.

**THE ELECTRIC STORAGE BATTERY COMPANY, Allegheny Ave. and 19th St., Philadelphia, Pa.**

SALES OFFICES: New York, 100 Broadway. Chicago, Marquette Bldg. Boston, 60 State St.  
 Detroit, Michigan Electric Co. Baltimore, Equitable Bldg. Catalogues.  
 St. Louis, Wainwright Bldg.

**CHLORIDE ACCUMULATORS FOR TELEGRAPH SERVICE.**

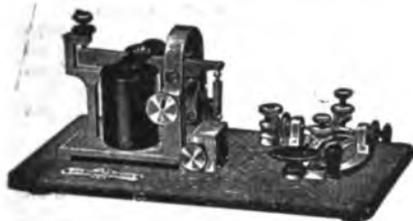
Smaller first cost and smaller interest charges.  
 Smaller maintenance charges.

Smaller floor space required.  
 More satisfactory performance.

Established 1878.

VERITAS VINCI, VERITAS PREVALEBIT.

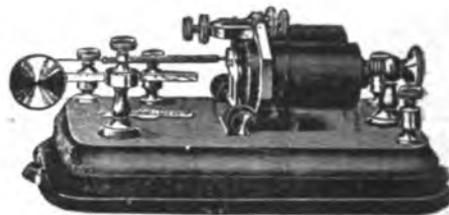
Incorporated 1899.



Main Line Sounding Relay. Key on Base.



Giant Sounder and Steel Lever Key Combination Set.



Regular Main Line Relay: 150 ohms.



Steel Lever Key.

**J. H. Bunnell & Co.,**

We continue to manufacture the High Grade of Telegraph and other Electrical Apparatus which has earned for us the reputation of

**BEST ON EARTH**

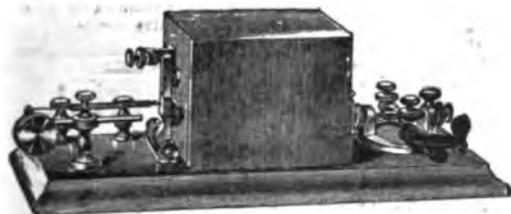
We own the Good-Will, Name, Copyrights, Trade Marks, Patent (288,881) and All Other Assets of the old firm of J. H. Bunnell & Co. and propose to maintain our rights in the premises. Attention is called to these Facts,

so that liability may not be incurred by dealing with unauthorized concerns.

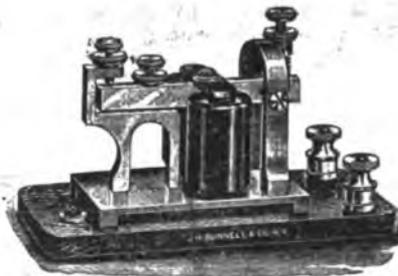
**J. H. Bunnell & Co.,**  
 Manufacturers, Importers and Dealers in  
 Telegraph, Telephone,  
 Railway, and Electric  
 Lighting Apparatus  
 and Supplies.

Instruments, Batteries, Insulated  
 Wires and Line Equipment.

**20 Park Place,**  
 Near General Post office,  
 Eastern Agency NEW YORK.  
 for Orient High Grade  
 Incandescent Lamps.



Box Sounding Relay. Key on Base.



Giant Sounder with Aluminum Lever.



Electric Bell Outfit.



**Prentiss Calendar Clocks**  
 for Office, Store and Home. They are well built, strong and durable movements and perfect time keepers.  
 Also *Frying-pan, Program and Synchronized Clocks.*  
 Send for Catalogue No. 730.  
**THE PRENTISS CLOCK IMPROVEMENT CO.**  
 Dept. No. 73, 40 Dey St., N.Y. City.

**EVERY GOOD OPERATOR**

SHOULD HAVE A GOOD WORD COUNTER  
 THEY SAVE TIME AND TROUBLE

**INVALUABLE BECAUSE THEY ARE RELIABLE.**

They record the exact number of words written upon any writing machine. They are an ornament to any typewriter. Simple and durable. Cannot get out of order. Unlimited counting capacity. Can be instantly reset. Warranted accurate.

Mailed to any Address upon Receipt of \$3.00.

In ordering state what machine you use, as attachments differ. Remit by express or post office money order to

**JOHN B. TALTAVAL, The Telegraph Age, 253 Broadway, N. Y.**

**W. R. OSTRANDER & CO.,**

Manufacturers of

Speaking-Tube Goods,

Electric Bells,

Annunciators,

General Electric Supplies,

22 Dey St., New York.

SEND FOR CATALOGUE.



**RIDER AGENTS WANTED**  
 One in each town to ride and exhibit sample 1901 Bicycle. **BEST MAKES**  
**1901 Models, \$10 to \$18**  
 '99 & '00 Models, high grade, \$7 to \$12.  
**500 Second-hand Wheels**  
 all makes and models, good as new, \$3 to \$8. Great *Factory Clearing Sale* at half factory cost. We ship *anywhere* on approval and ten days trial without a cent in advance.  
**EARN A BICYCLE** distributing Catalogues for us. We have a wonderful proposition to Agents for 1901. Write at once for our bargain List and Special C.C.T. Address Dept. 58 L,  
**MEAD CYCLE CO., Chicago**



The plug is put on with 3 rivets, thus strengthening the climber at a vital spot. You can re-plug these. I mail a pair of plugs, post paid, for 40 cents.

Box 379. J. DONNELLY, BRANFORD, CT., U. S. A.





# THOUSANDS SAY THE NEW CENTURY TYPEWRITER



does beautifully clean cut work,  
and is perfectly satisfactory.  
You must use it, if you want  
your correspondence to be  
**FIRST CLASS.**

Write for our new booklet  
**"Why?"**

American Writing Machine Company,  
302 Broadway, New York.

GILL ENG'G'Y.

### MARSHALL'S ELECTRICAL CONDENSERS.



MULTIPLE SERIES STANDARD CONDENSER.  
**STANDARD CONDENSERS a Specialty.**  
Condensers for Telegraph, Telephone,  
Electric Light and Experimental purposes.  
These condensers are used in all telegraph  
offices in America where standard and ordi-  
nary condensers are required. Send for cat-  
alogue.  
Address WM. MARSHALL,  
769 Lexington Ave., near 57th St., New York.

## A NEW WONDERFUL INVENTION!

### UNPURIFIED WATER

from wells, cisterns, hydrants and streams  
kills 250,000 people annually. Causes 500,000  
cases of Dyspepsia, Stomach and Bowel troubles, Kidney and Bladder diseases,  
Piles, Constipation, all kinds of Fevers—Typhoid, Yellow, Lung and Malaria;  
also Rheumatism, Female ills, Blood diseases, etc. Investigate, and you'll find  
**SAFETY LIES ONLY IN DISTILLATION** of all drinking water,  
before using. Boiling or filtering are merely subterfuges of no value. When  
a Chemist wants Absolutely Pure Water, he obtains it only by distillation.  
**EVERY FAMILY** can now, without extra expense or trouble, purify their  
drinking water by distillation—making it **absolutely safe and pure**, re-  
moving all impurities, germs of disease, Lime and other health-wrecking min-  
erals by using the

### "PURITAN" NEW PROCESS WATER STILL

**AUTOMATIC**

A new remarkable device, invented by a genius of Cincinnati, O. Entirely  
different and far superior to any filter. Simply set it over your cook stove,  
gasoline or gas stove and fill with any kind of water—it does the rest—**Fur-  
nishes Plenty of Pure Distilled Drinking Water** for family use,  
clear as crystal, soft, sparkling; aerates it, making it delicious to the taste.  
Try it 10 days and you'll be astonished at the improvement in your health, feel-  
ings and complexion. Thousands of prominent people testify to its marvelous power over disease.  
**DISTILLED** is the only safe water for families, infants, children, invalids, athletes—**Endorsed**  
by best physicians and the famous **Ralston Health Club** (11,000,000 members)—**used exclusively**  
in the U. S. Navy. Invaluable for Tourists, Surgeons and all Ralstonites. It is Nature's own medicine,  
and has cured thousands of hopeless cases. **ALL OUR READERS** should have one of these  
Remarkable Stills. They are well and durably made to last for years. Ready for use when received.  
Style No. 7. Price, \$5.00; Style No. 9, \$8.00. Sent anywhere with Plain Directions upon receipt  
of Money Order, Draft, Check or Registered Letter. **Money refunded after 10 days use** if not just  
as represented. You'll be delighted. We are reliable, old firm. Capital, \$100,000.00. Ship promptly.

**WRITE TODAY FOR OUR VALUABLE FREE BOOK, TESTIMONIALS, &c.** **AGENTS AND SALESMEN WANTED—MEN AND WOMEN.**  
\$100.00 Monthly and Expenses. It's a wonderful seller—  
22,000 already sold. Customers delighted. Write us quick.

This firm is reliable—EDITOR.) **Harrison Mfg. Co., 293 Harrison B'ld'g, Cincinnati, O.**



## GORDON PRIMARY CELL

**MOST EFFICIENT, CHEAPEST COST OF  
MAINTENANCE. TWO HUNDRED PER  
CENT. LONGER LIFE THAN ANY OTHER.**

Used on CLOSED or OPEN CIRCUITS for any kind of work  
for which primary batteries are required. Especially valuable  
for TELEGRAPH and TELEPHONE service.

MANUFACTURED BY  
**THE GORDON BATTERY CO.,**  
13-15 Lighthouse St., NEW YORK CITY.

(When writing Advertisers mention TELEGRAPH AGE.)

### Standard Underground Cable Co.,

## Wires, Cables, Conduits.



RAILWAY, ELECTRIC LIGHT,  
TELEPHONE, TELEGRAPH,  
For Aerial, Underground  
and Submarine Use.

NEW YORK. PHILADELPHIA. CHICAGO.  
PITTSBURGH. BOSTON. SAN FRANCISCO.

# THE TELEGRAPH AGE.

No. 6.

NEW YORK, MARCH 16, 1901.

VOL. XXIV.

## CONTENTS.

Some Points on Electricity .....	111
Recent Telegraph Patents. Business Notices. Miscellaneous Items .....	112
Obituary. Recent New York Visitors .....	113
Personal Mention. Removal of Cable and Telegraph Offices. New South American Cable Route .....	114
Government Control of Telegraphs and Telephones in England. Telephone Development. The Slaby System of Wireless Duplex Telegraphy .....	115
Annual Meeting of the Commercial Cable Co. ....	116
The Field for Telegraph Inventors. Publications .....	117
Editorial. As to Modern Business Methods. An Interesting Opinion. System of Wireless Telegraphy More Efficient than Marconi's .....	118
A Well-Earned Promotion. A Bright Young Postal Messenger. \$100 Limit for Mental Anguish .....	119
In the Shadow of Death a Mother Pleads in Vain .....	120
A True Story. A Lineman's Last Climb .....	121
A Letter from "Bogy." Repeal of the Telegram Stamp Tax .....	122
Some Messages and Their Senders .....	123
To Our Friends .....	124
To Our Correspondents. Baltimore, Western Union; Montreal, Canadian Pacific; Vancouver, Canadian Pacific; Havana Notes .....	125
Memphis, Western Union; Denver, Western Union; Chicago, Postal .....	126
Philadelphia, Postal; Philadelphia, Western Union; The Associated Press Notes .....	127
St. Louis, Western Union; New York, Postal; St. Louis, Postal. New York, Western Union; Boston Telegraphers' Mutual Aid Association .....	128
The Next Meeting of the Association of Railway Telegraph Superintendents. Damaged by the Big Storm. Table of Tolls on Day or Night Messages. British Telegraphers Praised .....	129
Leadville Man Receives His Reward Here on Earth .....	130

## SOME POINTS ON ELECTRICITY.

BY WILLIS H. JONES.

### The Roberson Quadruplex.

Notwithstanding the fact that a description of the Roberson quadruplex has appeared in this and other journals since its invention four years ago, the general impression held by laymen and many others concerning the principal features of the apparatus and the actuating principle of the device is quite erroneous. The mistaken idea seems to prevail that Mr. Roberson has at last solved the problem of constructing a quadruplex consisting of "two polar duplexes," or, in other words, of having been able to substitute a polarized relay and a polechanger on the "common" side for the present style neutral relay and transmitter.

As a matter of fact, he has aimed at nothing of the kind. Strictly speaking, he employs neither polechanger, neutral, nor polarized relays, as we understand their present functions, in his outfit, but a combination, or rather a modification of all three instruments.

We can, therefore, preface a description of his quadruplex system with the statement that neither side is actuated on the principle of a polar duplex nor yet like the neutral side of the Edison quadruplex. Two separate Stearns differential duplexes, with relays having polarized cores, would be a more appropriate comparison, as there is no "short end" current in Roberson's arrangement to cut down the full value of the current received; nor can one side interfere with the other, each half of the quadruplex being independent of the other.

By means of a large horseshoe-shaped permanent magnet attached to the core of an ordinary

differential neutral relay, he obtains a very sensitive instrument, which, with his system, enables him to work the quadruplex "four cornered" in weather which ordinarily destroys the usefulness of a Stearns duplex and the neutral side of our present quadruplex apparatus.

The real purpose of the permanent magnet, however, is to furnish a working margin for the relay by utilizing the initial magnetism in the horseshoe alternately *with* and *against* the magnetizing energy due to the electric current traversing the coils of the instrument.

To understand how this is brought about the reader should know that the strength with which a magnet will "pull" an armature toward it is in proportion to the square of the number of magnetic lines of force which traverse its iron core. Thus, if a current of electricity flowing through the coils of a magnet induces, say, ten lines of force in the iron, the "pull" due to that source alone will be represented by the square of 10, which is 100. If, however, the iron contains an initial number of lines, as it must when it is a permanent magnet, the pull will be equal to the square of the sums of the two forces when their direction is *alike*, and by their *difference* when in opposition.

Assuming, then, that ten lines of force also represent the value of the initial magnetism in the magnetic circuit from the permanent magnet, the pull on the armature due to this source alone will likewise be equal to the square of 10, or 100. From this it follows that in such a circuit, when these two magnetizing forces are in like direction, the pull on the armature will be equal to the square of  $10+10=20$ , or 400, giving a working margin of 300. On the other hand, when the two forces oppose, one neutralizes the other, and there is no magnetism developed in the cores.

These figures do not represent the actual proportions employed, but serve for the purpose of illustrating the principle by which the relay is actuated when an alternating current is employed.

It is plain, then, that in order to get two duplexes out of the one circuit, it is simply necessary to so set the polarity of the initial magnetism in the respective relay cores that a positive incoming pulse will augment one of the instruments to a maximum degree, and a negative impulse the other. It is to this extent only that the receiving instruments employed in this system may be termed polarized relays.

Two transmitters—one for each polarity of the dynamo—cause the proper impulses to be delivered to the respective relays at the distant end of the circuit in the usual way, and as each relay can only respond to its assigned direction of current, and there can be no difference in the value of the two polarities generated in the armature of one dynamo, it follows that there can be no difference in the working efficiency of the two sides of the quadruplex, other conditions being equal; nor

can one side interfere with the other, because both the negative and the positive impulse of one machine cannot possibly be sent over the wire at exactly the same instant.

Now, in order to arrange a quadruplex system embracing the ideas which led to the invention, Mr. Roberson employs a regular alternating current dynamo with collector rings specially constructed and arranged for the purpose.

The details of this machine and a diagram of the quadruplex apparatus will appear in the following issue of this journal.

*(To be continued.)*

#### Recent Telegraph Patents.

A patent for an automatic copying telegraph, No. 668,248, has been issued to Ignatius Zabriski, of Milwaukee, Wis.

#### Business Notices.

The Standard Underground Cable Co., of Pittsburg, Pa., announce that they have established an office at Boston, Mass. It is located in the Tremont Building, at Tremont and Beacon streets, that city, and is in charge of Mr. Atlee B. Saurman, formerly associated with the New York office.

Part five of "The Ericsson Series," the most interesting number thus far issued of this little publication, has made its appearance. It is full of information regarding the telephone, and of the kind everybody wants to know everything about. This will of course create an active demand for the booklet, which may be had free simply for the written request addressed to the Ericsson Telephone Co., 206 Broadway, New York. A page insert shows a fine view of the Ericsson multiple switchboard, lately installed at Pittsburg, Kan. A large number of these switchboards are now in use in the West and elsewhere.

#### Miscellaneous Items.

Mr. A. S. Ayres, formerly manager of The United Press office, New York, and for the past three years manager of the Publishers' Press Association, Washington, D. C., recently resigned his position to enter the employ of a broker's firm at Cincinnati, O.

Mr. Paul W. Harner, for eleven years with the Pennsylvania and Reading Telegraph Company at Pottsville, Pa., has resigned to accept a position in the telegraph department presided over by Mr. R. C. Luther, general superintendent of the Philadelphia and Reading Coal and Iron Company at the same place.

Mr. Jeff. W. Hayes, of Portland, Ore., the ex-telegrapher, and well known throughout the country as a versatile writer of stories relating to the telegraph, has opened what he terms the "Telegraph Cigar and News Stand" at 266 Stark street, Portland, that State. Telegraphers everywhere, especially those who have read his interesting book of

sketches, "Tales of the Sierras," will recognize in this member of the fraternity, who lost his eyesight, a brave man who has met his misfortune courageously, and will wish him well.

The New York Division of the Order of Railroad Telegraphers will give their first annual ball at New Eckford Hall, Greenpoint, Borough of Brooklyn, New York, on Tuesday evening, April 16. An invitation is extended to commercial operators. The committee of arrangements is made up as follows: F. M. Capach, chairman; George M. Hilley, Edward Collins, Thomas J. Stack and William McAndrews.

Hampton Roads and vicinity is noted for its fine oysters. Of this fact the publisher of TELEGRAPH AGE is now competent and abundantly willing to testify, for the sample of these delicious bivalves recently sent to him by Mr. W. J. Boddell, the old-timer and military telegrapher, now of the quartermaster's department, Fortress Monroe, was an argumentative object lesson at once convincing and satisfactory. We also understand that similar gifts were sent to Mr. John Brant, secretary of the Old Time Telegraph Association, and Mr. E. E. Brannin, chief operator in the New York Western Union office.

Mr. C. H. Bristol, general superintendent of construction of the Western Union Telegraph Co., Chicago, is the inventor of a stump pulling machine. This device has been recently tried in pulling out of the ground and rock the stumps of telegraph poles, and it has been pronounced a great success. Recent trials in such work have been conducted by Mr. I. N. Miller, superintendent of the Western Union Telegraph Company, Cincinnati, O., and Mr. George L. Lang, superintendent of the Queen and Crescent Railway Co., at Lexington, Ky., and the machine is stated to have accomplished its work in a very expeditious and satisfactory manner.

Among the telegraph officials who attended the recent Mardi Gras carnival at New Orleans were J. M. Stephens, superintendent of the Western Union Telegraph Company at Atlanta, Ga.; Mr. J. L. Newton, manager of the Western Union Telegraph Company at San Antonio, Tex.; Mr. S. A. Duncan, assistant general superintendent of the Postal Telegraph-Cable Company, Atlanta, Ga., and Mr. C. F. Annett, assistant superintendent of telegraph of the Illinois Central Railway Company, Chicago, Ill. The latter gentleman was accompanied by his son, Charles F. Annett, Jr., who is an attache of the electrical department of the same company. Mr. W. A. Porteous, manager of the Postal Telegraph-Cable Company, and Mr. J. R. Terhune, manager of the Western Union Telegraph Company at New Orleans, were kept unusually busy entertaining visiting telegraph people.

Mr. G. G. Hadley, of New York, a prominent telegrapher a quarter of a century ago, was in Cincinnati, O., recently, when he took occasion to call upon and renew an acquaintance with Mr. W. J. Murphy, the general manager of the Queen and Crescent Railroad, another old-timer, whom he

had not seen for thirty-five years. Mr. Hadley, in referring to Mr. Murphy, said: "We worked together when boys as telegraph operators for the Erie Road at Susquehanna, Pa., and I taught his two younger brothers telegraphy. The station was burned out there, and we had our office in a box car on the side of the road for some time. I began as a telegraph operator at Polono Summit, on the Erie Road, when twelve years of age. The only place to board was an inn on the mountain top. The woods and roads were infested with rattlesnakes, and when I shut up the office at night in summer I would start on a dead run and never stop until I landed on the steps of the inn, out of breath, for hundreds of times I had heard the bloodcurdling rattle of the venomous reptiles as I sped along. They would come into the warm dust of the road, but I ran so fast they never got a stroke in on me."

Mr. Hadley was informed that he must address his old friend as Colonel Murphy, for such, indeed, he is, that title having been conferred upon him by Governor Bradley, of Kentucky, and once a colonel always one, without variation or shadow of turning.

Mr. Hadley was accompanied by his wife. He had been up to the coal mines secured by the new gigantic coal combine in West Virginia, of which he is general manager.

#### Obituary.

Mrs. George D. Soule died at her home in Boston, Mass., February 28. For several years she was a Western Union operator at East Whitman, Mass.

John P. Madden, a former telegraph operator, but of late years a politician in New York, died at El Paso Tex., whither he had gone in the hope of recovering his health.

Dr. Mayo G. Smith, who was associated with Professor Morse in constructing the first telegraph line between Washington and Baltimore, died on February 21 at Colorado Springs, Col., at the age of 85 years.

George D. Field, an old-time Chicago operator, and for the past fifteen years a member of the Chicago Board of Trade, died March 4 at Phoenix, Ariz., whither he went last November for the benefit of his health.

Thomas Howard Reilly, well known in news and telegraph circles, died at his home in Passaic, N. J., on February 28. He was born in England, February 19, 1850. He became early in life an expert operator, entering the employ of the American Telegraph Company as a press operator. In 1876 he was sent by the Western Union Telegraph Company to California to assist in the introduction of the duplex and quadruplex systems of telegraphy on the Pacific coast. He returned to New York the following year and accepted a position with the New England Associated Press. On January 1, 1886, Mr. Reilly was appointed day news agent in New York of that association, which

position he held for eleven years. In 1897 he became the New York correspondent of the Boston Transcript and held this position until his death. Mr. Reilly was dignified and reserved in his manner, but highly esteemed for his honorable and upright character. He left a widow and two young children. His funeral on March 2 was attended by many of his New York friends, the staff of the Western Union Company being represented by Messrs. John Brant, Thomas M. Brennan, Edward P. Griffiths, W. T. Kilmartin, William L. Ives, H. W. Sauer, John K. Calvert, Joseph Knittle, J. H. Montgomery, Michael J. O'Leary and L. W. Wingate.

#### The Late Adolph Hummel.



ADOLPH HUMMEL.

Late Superintendent of the Stock Quotation Telegraph Company, New York. Who Died of Heart Disease on February 16, as Announced in TELEGRAPH AGE, March 1.

#### Recent New York Visitors.

Mr. A. C. Kaufman, superintendent of the Postal Telegraph-Cable Co., Albany, N. Y.

Mr. W. F. Williams, superintendent of telegraph of the Seaboard Air Line Railway, Portsmouth, Va., and president of the Association of Railway Telegraph Superintendents.

Mr. William E. Conrad, manager of the American Telephone and Telegraph Co. at Troy, N. Y., and formerly chief operator of the Postal Telegraph-Cable Co., Norfolk, Va. He was the guest during his stay in this city of Mr. Philip J. Faulkner, district wire chief of the American Telephone and Telegraph Co., who is also a well-known ext-telegrapher.

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

**Personal Mention.**

Mr. E. J. Nally, general superintendent of the Postal Telegraph-Cable Co., Chicago, Ill., is back again at his office after spending a brief vacation in Florida.

Mr. Charles Cuttriss, electrical engineer of the Commercial Cable Company, New York, sailed for Europe on March 9, where he will spend a well-earned vacation.

Col. Albert B. Chandler, late president, and now chairman, of the board of directors of the Postal Telegraph-Cable Company, New York, is spending a few weeks at Thomasville, Ga.

Col. R. C. Clowry, vice-president and general superintendent of the Western Union Telegraph Company, Chicago, Ill., has returned to his home after a three weeks' business trip to New York city.

Signor Marconi has arrived from Europe. It is said that he expects to meet officials of the equipment bureau of the United States Navy, and that the meeting would perhaps result in some experiments on an American war ship.

Vice-Presidents Thomas F. Clark and J. B. Van Every, together with Superintendent of Tariff William Holmes, all of the Western Union Telegraph Company, New York, were in Washington on March 14 and 15, where they appeared before the Industrial Commission.

Capt. G. O. Squier, U. S. N. Signal Corps, now laying Government cables in the Philippines, contributes a very interesting article on "The Influence of Submarine Cables Upon Military and Naval Supremacy" to the last quarterly issue of the Proceedings of the United States Naval Institute.

It will be noticed elsewhere in this issue that Mr. Charles E. Merritt, cashier of the Commercial Cable Company, New York, a position he has held since its organization, was elected assistant treasurer of the company at the late annual meeting of the stockholders. Mr. Merritt has spent a lifetime in the telegraph and cable service, and no one in the ranks is more worthy of such recognition.

**Removal of Cable and Telegraph Offices.**

The New York Stock Exchange having purchased the property, No. 8 Broad street, adjoining its premises on the north, occupied by the Anglo-American Telegraph Company, and No. 16 Broad street, on the south side, in which is located the Central Cable office, the Gold and Stock Telegraph Company, the Stock Quotation Telegraph Company and the Western Union Telegraph Company, the removal of the offices of these several companies, which is now going on, has been made necessary. The buildings are to be torn down and a new and enlarged structure is to cover the entire site, extending from No. 8 to No. 18 Broad street, to be devoted to Stock Exchange purposes. When completed, probably about a year hence, the Western Union Telegraph Company, the Central

Cable office and the Gold and Stock Telegraph Company will find permanent quarters in the new edifice. Temporary quarters, however, are now being fitted up at 46 Broad street for the accommodation of the Western Union Telegraph Company, the Central Cable office and the Gold and Stock Telegraph Company, and the removal to that location will soon take place. Superintendent M. H. Redding, who is in charge of this busy financial district, will also have his headquarters at this address.

The Stock Exchange will occupy quarters in the Produce Exchange, at the foot of Broadway, during the construction of the new Stock Exchange building, which, when completed, will be one of the finest structures of the kind in the world. All of the cable and telegraph companies will have to open offices on the floor of the temporary stock exchange during the period of reconstruction.

The Stock Quotation Telegraph Company has found permanent offices at No. 54 Broad street, where an entire new ticker service and telegraph equipment will be installed by Mr. John Burry, the electrician of the company, who is superintending the work. The executive offices of this company will also be located here, and elegant rooms are being prepared for the occupancy of President William H. Hurst and for the Secretary and Treasurer, John J. Walsh.

The Anglo-American Telegraph Company, Mr. Charles Trippe, superintendent, will move from its present quarters, No. 8 Broad street, to the new and magnificent Broad-Exchange Building, at Broad street and Exchange place.

**New South American Cable Route.**

On February 22 a new route for telegraph business was established to Brazil, South America, "via Galveston," Tex. This is, in fact, the re-opening of an old route, which was abandoned several years ago. Formerly it was a much used line to points on the Atlantic coast of South America, but of late years this business has been routed via London. This new arrangement has been brought about through the efforts of the Central and South American Telegraph Company, an American corporation, which has also succeeded in having the tariff to South American points reduced from \$1.35 to \$1 per word. The route via London is still maintained, however, and those who prefer to send their business that way can do so, the tariff being uniform with the "via Galveston" route. Telegrams for Brazil "via Galveston" are transmitted over the land lines of Argentina and Brazil by way of Libres and Uruguayana. The service over these land lines since the opening of this new route, February 22, has been very satisfactory, the average time of transmission between Brazil and New York being under one hour. Besides the Libres route, duplicate lines have been connected with Brazil at three other points.

The European route to Brazil is via New York to London, thence to Lisbon, Madeira and Pernambuco.

### Government Control of Telegraphs and Telephones in England.

It is sometimes urged that better results would follow were the telegraphs of this country in possession of the Government. In Canada, it is asserted, the telegraph and telephone systems will probably soon come under the jurisdiction of the Dominion Government, and the advisability of adopting such a measure has been variously commended by that portion of an uninformed and unthinking press which jumps to the conclusion that because the English Government exercises such control in Great Britain, with a lower rate of tolls, the plan must necessarily be a good one to follow. Judging from results it has been a notoriously bad one. And this view of the situation is maintained by Prof. J. A. Fleming, an English authority, who, in a review of the conditions of the telegraph and telephone as they exist in England, appearing in the current issue of the "Nineteenth Century and After," does not present a flattering picture of electrical enterprise in England. The governmental hand appears to be a blighting one. He says in part:

Now, it is a curious coincidence that just at the dawn of this period of electrical activity—viz., in 1870—the Government of this country set themselves up in business as electricians, and proceeded to create a gigantic Government monopoly in one large department of electrical invention which has exercised a most undoubted control over the supply and demand for invention in a wide area of electrical work. Prior to 1870 the chief practical use which had been found for the electric current was in the electric telegraph. Public telegraphy was conducted by competing electric telegraph companies covering various areas of the country, just as the various railway companies do at present. Their development created a demand for electrical inventions in telegraphy, and the records of the Patent Office show how prolific were some inventors in supplying the need. The Government of that day thought it right in the public interest to buy up all these companies for a capital sum of £10,000,000, with the object of bringing the benefits of telegraphy within the reach of all. But in order to protect the capital thus invested from injury by competition, they passed acts of Parliament in 1868 and 1869 giving the Post Office exclusive rights, with certain exceptions, to transmit messages and information by electricity when practiced for profit. When the telephone made its appearance in 1877, and telephone exchanges began to be devised in 1879, the question arose whether a telephone was a telegraph within the meaning of the act. The Government telegraph officials feared that their monopoly was threatened; hence, with the assistance of the crown lawyers, they proceeded to stake out a big claim, and to obtain an interpretation of the Telegraph acts, passed to legalize the purchase of the old electric telegraph companies, which was equivalent to an authoritative statement that the Post Office possessed the sole right to transmit intelligence by electrical means in return for pay-

ment, not merely as the art was then known, but by all and every method which the wit of man could or might throughout everlasting ages devise. Two judges, not the very strongest who have ever sat upon the bench, gave judgment in this sense against the United Telephone Co. Unfortunately, the case never went to appeal, far less to the House of Lords. The victorious Post Office said to the vanquished telephone company: "Don't let us fight any more. Give us 10 per cent. of your gross receipts and we will give you a license to work your invention."

The story of the relations of the Post Office and the telephone is a long one; some simple facts can only be mentioned here. The 10 per cent. royalty paid by the National Telephone Co. to the Post Office amounted in 1898-1899 to £123,061; in the past year probably to about £130,000. The proper telegraph business of the Post Office is conducted, as is well known, at a loss . . . . The total royalty paid by the National Telephone Co. and its predecessors up to September 30, 1900, has been £1,081,490. This has been a tax imposed by the Post Office on a new industry barely 20 years old. When the telephone first made its appearance the technical experts of the Post Office laughed at it as a toy. It was only when they were convinced of its utility by hard facts that they set in motion the legal machinery which enabled them to bring it within the grasp of the Telegraph acts. Yet the claim of the Post Office to finger this million of sovereigns depends only on a single decision in a court of first instance, and has never been confirmed by the higher legal tribunals.

The officials in the Government Telegraph Department were at once exalted into a position of paramount power over all electrical invention in land telegraphy. It is pure waste of time for an inventor to spend days and nights over a telegraphic invention, or invest capital in patenting it, unless he can get it tried, and if it succeeds, market his invention to a purchaser. He is not generally a philanthropist, but is spurred to work by the hope of reward. But in electric telegraphy he can try nothing and market nothing unless he first persuades or pleases the permanent officials of the State Telegraph Department. He has to overcome their inertia, opposition, or it may be ill will, before he can even get a trial of his telegraphic apparatus, and when at last he demonstrates an important advance, he is entirely at their mercy whether it shall be adopted or not, and, if so, what price he shall receive for it. The permanent official in any Government department is not, as a rule, eager to introduce improvements from outside. He loves his departmental routine, his habits of mind are slow, methodical, cautious, and he does not want radical reforms. If there is to be any invention at all, he generally likes it to proceed from himself, doubtless at the expense of the nation, so that he may keep before the public eye, and convince his chiefs that he is a clever and important person. A young man bursting with new ideas does not generally enter the civil service; he prefers the greater freedom—if more risk—of a career outside; hence we should

hardly expect a state telegraph official to be a prolific and original inventor. The most effective method of afflicting any department of applied science with creeping paralysis is to constitute it a Government monopoly.

#### Telephone Development.

The general public hardly realizes the interest and expectancy with which those engaged in electrical pursuits look forward to the effects of the decision given in the United States Circuit Court in Boston last week, says the Evening Post, when Judge Brown declared the famous Berliner microphone patent invalid, because both Bell and Edison had done already that which the patent would cover. If the patent had been sustained, it would have extended to 1908 the monopoly which the Bell system has now enjoyed since 1877. According to the language of the Berliner patent, just broken, the Bell Company would still have had control for seven years more of all apparatus of a telephonic nature "adapted to increase or decrease the resistance of the electric circuit by the variation in pressure," and this covers every transmitter of any value yet known to the art.

Although doubtless the Bell officials will try to contest the decision in the Circuit Court of Appeals, not a few of the people interested in the Bell system have grown very tired of being called monopolists, and large numbers of the able men in the old system, who bank on good service, accumulated experience, knowledge of the art, and progressive lowering of charges on a scientific basis, are heartily glad that they fight no longer under a banner of monopoly that was actually a prejudice to their cause. Some of the low rates asked by the independents, however, have been positively absurd, with the result that many of the new concerns have gone to the wall or been bought up.

The annual meeting of the American Telephone and Telegraph Company does not take place until the end of this month, so that exact figures as to the system cannot be given, but they can be closely approximated. The last annual report showed that in December, 1899, there were 1,580,000 instruments out, whereas last December there were 1,950,000. As each station has two instruments, a receiver and a transmitter, that would mean, if all were in use, a million subscribers, or perhaps slightly less, as many have over one set. According to the report quoted, there were 1,239 Bell exchanges, 1,187 branch offices, 509,000 miles of circuit on poles, and 489,000 miles under ground, 25,741 employes, and, rather curiously, only 632,946 stations. The discrepancy between the last figure and the calculation just given above would indicate that some of the sub-companies had a great many unused sets of instruments thrown back on their hands, probably on account of competition. This is confirmed by the fact that the net output of instruments for 1900 was only 372,311, whereas in 1899 it was 455,255, a proof that some influence restraining growth was at work. The gross for all 1900 appears to have been only 20,000 instruments

more than in the previous year. It may be added that the Bell system carries about two billion conversations a year at rates varying from 1 to 9 cents, and that the total expenditure for construction showed up in the vicinity of \$140,000,000, to which apparently should be added \$20,000,000 for the long-distance system.

If one is to accept the figures of Judge Thomas, the president of the Independent Telephone Association of the United States, the opposition musters already 1,500,000 subscribers, in some five or six thousand companies or coöperative concerns. There are authentic lists in New York containing the names of 5,000 such companies, and they are growing rapidly as to size and number. It would be unreasonable to assume a capitalization on the same heavy basis as the Bell system, for the bulk of the work is much cheaper, but allowing it only two-thirds as much per subscriber, a total is arrived at of over \$300,000,000 as the telephone investment in this country. Experts have estimated a figure of \$400,000,000 on a 5 per cent. return. The two billion messages of the Bell system alone, at only three cents each, would yield \$60,000,000 a year, and that, at 60 per cent. for operation, is \$24,000,000 net, or 6 per cent. on the four hundred millions, leaving the independent work and capital wholly out of sight. Judge Thomas has stated that, while there are now two and one-half million subscribers here, seven and one-half million stations could be maintained at reasonable prices on the existing basis of population, and he believes that figure can now be reached in five years. In other words, by 1905 the telephone investment in this country will easily have passed a billion dollars.

#### The Slaby System of Wireless Duplex Telegraphy.

From an ill-understood curiosity wireless telegraphy seems at last to have become an important and valuable branch of electrical science, says the Scientific American. Much of the credit for this evolution is due to Prof. Slaby, of Charlottenburg, and to his indefatigable collaborator, Count Arco, both of whom have systematically investigated the phenomena of the Hertzian waves and formulated laws by which these phenomena can be explained. As a result of their labors, the uncertainty and whimsicality of wireless telegraphy have disappeared. Much that was formerly considered indispensable in the ethereal transmission of electrical waves has been proven unnecessary, and even disadvantageous.

The balloon at the upper end of the transmitting wire, supposed to serve the purpose of increasing the capacity; the peculiar plates at the receiving station, formed like butterfly wings, and likewise designed to increase the capacity; the careful insulation of the receiving wire from the earth; and other details of the old system have been rudely thrown aside. Nothing more is heard of the law that the distance to which messages can be transmitted is proportional to the square of the length of the transmitting and receiving wires. That there is a definite relation between distance and length of wire or height of mast may well be assumed; but that relation, whatever it may be, plays no very important part in

Slaby's system, since the tension to which the coherer is subjected is augmented by means different from those hitherto known.

The waves sent forth by a transmitter loop are augmented by a condenser. An induction coil is connected with the upper end of the loop, and is so wound that it permits the passage of low-frequency currents, but checks the high-frequency currents generated by the discharge of the condenser. At the moment of discharge the loop acts as a single verticle wire. By varying the nature of the induction-coil and the condenser, waves of any length can be sent forth. At a lecture delivered before the German Emperor, waves varying in length from 140 to 600 meters were utilized. In direct opposition to Marconi, Slaby grounds his receiving wire. An ordinary lightning rod is used instead of a mast. If the length of the receiving-wire be exactly one-fourth the wave length, a node is formed at the connecting point with the earth, and the maximum amplitude of the alternating tension appears at the upper end. Evidently the coherer should be attached to the point of greatest amplitude; but such an arrangement is impossible in practice. The difficulty is very simply and ingeniously overcome by connecting with the receiving-wire at the earth node a horizontal auxiliary wire of equal length. At the free end of this horizontal wire the wave-amplitude is equal to that of the upper end of the main wire. To the free end of this auxiliary wire the coherer is attached. The auxiliary wire need not be extended in a straight line; it can be wound to form a coil.

If the main receiving-wire, which is usually a lightning rod, and which cannot, therefore, be readily lengthened and shortened, be subjected to the action of electrical waves of greater length than the wire can receive, it is necessary merely to lengthen the auxiliary wire in order to receive the message. In this manner a nodal point can be formed in the auxiliary wire, so that the receiving wire may be subjected to electrical impulses by which it would not otherwise be influenced. The auxiliary wire in Slaby's system is of the utmost importance; for by its use the receiving apparatus will be affected only by certain waves. Thus Prof. Slaby has succeeded in overcoming one of the most glaring deficiencies in wireless telegraphy—the impossibility of secretly transmitting a message to one station alone.

In order to increase the effect of the waves, a peculiarly wound induction coil is placed in the circuit between the coherer and the auxiliary wire. The coil Prof. Slaby terms a "multiplier." By means of this instrument a trustworthiness and certainty of operation have been attained which are as gratifying as they have been conspicuously lacking in previous methods of ethereal telegraphy.

Not the least interesting feature of Prof. Slaby's invention is the possibility of receiving two messages simultaneously at a single station—an end which has been attained largely by means of the auxiliary wire of variable length already mentioned.

You can't afford to be without TELEGRAPH AGE.

#### Annual Meeting of the Commercial Cable Co.

The annual meeting of the shareholders of the Commercial Cable Company was held in New York March 4. The accounts and balance sheet for the fiscal year ending December 31, 1900, were approved. The revenue from the submarine cables and landlines (Postal Telegraph-Cable Company) increased \$339,946.65 over the previous year.

Out of the balance to the credit of revenue account there has been set aside a sum of \$350,000 as an addition to the reserve fund, an amount of \$150,000 as an addition to the fund for insurance of stations, apparatus and repair steamer "Mackay-Bennett" and an amount of \$400,000 to reserve for the renewal of landlines.

After providing for all operating expenses and reserves, the balance of net revenue, including the amount brought forward from the previous year, amounts to \$2,007,730.18, out of which have been paid interest on bonds and debenture stock (\$720,000) and dividends of 8 per cent. on the capital stock (\$1,066.664), leaving a balance of \$221,066.18 to be carried forward to the present year.

The general reserve fund now amounts to \$3,947,232.97, and the insurance fund to \$519,409.60.

The share capital of the company was increased from \$10,000,000 to \$15,000,000, and of the increase \$3,333,300 was issued to shareholders at par, to provide for cable extensions. An additional cable was laid between New York and Canso, N. S., and a cable was also laid between the latter place and Fayal, Azores Islands.

There have been added to the Company's land-line system 482 miles of poles, 12,693 miles of wire and 62 new offices.

Traffic arrangements were also entered into with the Deutsch Atlantische Telegraphen Gesellschaft (German Atlantic Cable Company).

The public auditors, Messrs. Deloitte, Dever, Griffiths & Co., were re-elected by the shareholders.

The Board of Directors, which was re-elected, is as follows: John W. Mackay, James Gordon Bennett, Right Hon. Lord Strathcona and Mount Royal, G.C.M.G., Gardiner G. Howland, Charles R. Hosmer, Col. William Jay, Thomas Skinner, George G. Ward, Clarence H. Mackay, Sir William C. Van Horne, K.C.M.G., Col. Albert B. Chandler, Edward C. Platt and Dumont Clarke.

The following officers were elected: John W. Mackay, president; George G. Ward, vice-president and general manager; Charles R. Hosmer, vice-president; Albert B. Chandler, vice-president; Clarence H. Mackay, vice-president; Edward C. Platt, treasurer; Charles E. Merritt, assistant treasurer; Albert Beck, secretary, and John O. Stevens, assistant secretary.

The Government cable has been finished to the Island of Jolo, in the Sulu group of the Philippine Islands, and messages are now transmitted to all the southern islands. The cable system now connects Panay, Negros.

Subscribe for TELEGRAPH AGE, \$1.50 per year.

**The Field for Telegraph Inventors.**

Seemingly an attractive field for young inventors during the last two or three years has been the devising of printing-telegraph systems and apparatus intended to effect great improvements over the present methods of telegraphy.

Discussing the subject opened by a consideration of introducing radical improvements in methods of telegraphy, a prominent telegraph engineer makes some interesting observations in the *Western Electrician*. "When Morse invented his telegraph key and sounder," said he, "and paved the way for reading by sound, he produced probably the simplest system that could be devised, and a system which has stood the test of years. The country is to-day covered with an army of skilled telegraph operators, and to introduce any one of the many so-called 'revolutionary' telegraph systems that are being put forward would necessitate either the employment of new help or the training of old employes, and this would scarcely be compatible with present conditions. Then, too, the substitution of more complex and necessarily more expensive devices at each telegraph station would mean a very large initial expenditure, and the doubtful advantages gained in the automatic recording of messages and possibly more rapid transmission would be more than offset by the expense of keeping the systems in repair. It would be well for the many inventors who aspire to produce efficient and economical telegraph apparatus and who, as a rule, are unfamiliar with the conditions met with in the operation of a successful telegraph system, to make a thorough study of the situation and seek the advice of experienced telegraphers before they devote their time, money and energy to the perfection of apparatus which in itself may be interesting as a mechanical or electrical contrivance, but which is destined to find no place in the commercial field of telegraphy."

The message sent by direction of Mr. R. T. Brown, manager of the West India and Panama Telegraph Company, London, England, announcing the death of Queen Victoria, was transmitted from the palace at Osborne, Isle of Wight, England, to Georgetown, British Guiana, South America, in twenty-two minutes, a quick piece of work, anticipating considerably the Government message sent by the Secretary of State for the Colonies. The route traversed is a much broken and circuitous one. The colored crowd at Georgetown were lamenting the death of the Queen before the news was known in nine-tenths of the London suburban districts.

**DISTRICT MESSENGER COMPANY FORMED.**—The Postal Messenger Company has been organized under the laws of the State of New Jersey with a capital of \$10,000, with the privilege of conducting messenger service in all States and Territories of the Union. The incorporators are: William H. Baker, Charles P. Bruch and John O. Stevens, of New York. Mr. A. C. Ackerman, of 99 Montgomery street, Jersey City, N. J., is the local agent of the new company.

**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.

**Commercial Union Telegraph Co.**

At its recent annual meeting, held in Portland, Me., the following directors of the Commercial Union Telegraph Co. were elected: William H. Baker, George G. Ward and Edgar C. Bradley, of New York; William Engel, of Bangor, Me.; H. S. Osgood, P. B. Rolfe, F. N. Dow, Albion Little, G. W. Norton and S. L. Larrabee, of Portland.

TELEGRAPH AGE is of value to you.

# TYPewriter EXCHANGE

TITLE GUARANTEED.



Most complete stock of Second-Hand Machines of any house in the trade.  
 Samples of work and prices cheerfully furnished on application.  
 Machines shipped subject to inspection.

**BRANCH OFFICES:**

**BOSTON**—38 Bromfield Street.  
**BALTIMORE**—3 W. Baltimore Street.  
**CHICAGO**—124 La Salle Street.

**KANSAS CITY**—818 Wyandotte Street.  
**PITTSBURG**—432 Diamond Street.  
**ST. LOUIS**—208 No. 9th Street.

**SAN FRANCISCO**—536 California Street.

Mention TELEGRAPH AGE when you write to advertisers

## Higher Education IN Typewriter Operating.



# THE Smith Premier,

The World's Greatest  
Touch Typewriting Machine.

**I**T has **The Perfect Keyboard.** Keys on the Smith Premier are in straight lines. No zigzag arrangement to hinder the movement of the fingers, up and down the keys, which should be automatic. The Touch on the Smith Premier is light and absolutely uniform. **On the Smith Premier Typewriter One Stroke** only for each character; on single keyboard machines, **Two Strokes** are required to print one-half the characters. The Smith Premier has the easiest keyboard to learn and the surest and most satisfactory to operate.

**TOUCH INSTRUCTION BOOK AND ILLUSTRATED BOOKLET FREE ON REQUEST.**

**THE SMITH PREMIER TYPEWRITER CO.,**

Write for Information.

Syracuse, N. Y., U. S. A.



## Medal Awarded at Paris Exposition

....TO....

**FOOTE, PIERSON & CO.**

....ON....

Telegraph, Telephone, Fire and Police Telegraph Instruments

82-84 FULTON ST., NEW YORK

**THE**  
**CAMEWELL FIRE ALARM TEL. CO.**  
19 Barclay St., New York.  
**JOB. W. STOVER,** **H. F. BENDER,**  
President. Treasurer.  
**FIRE ALARM and POLICE SIGNAL**  
**TELEGRAPHS**  
**FOR CITIES AND TOWNS**  
Over 850 Plants in Actual Service.  
SELLING AGENTS:  
**THE POLICE TELEPHONE & SIGNAL CO.,**  
651-653 Randolph Street, Chicago, Ill.  
**Geo. D. GREENWOOD,**  
423 Market Street, San Francisco, Cal.  
**FIRE & POLICE TELEGRAPH CO.,**  
Louisville, Ky.  
**Wm. E. DEBROW,**  
178 Devonshire Street, Boston, Mass.  
**SOUTHERN ELECTRIC CO.,**  
Hoen Building, Baltimore, Md.  
**Wm. CHANDLER,**  
Richmond, Ind.  
**UTICA FIRE-ALARM TELEGRAPH CO.,**  
Utica, N. Y.

## ERICSSON TELEPHONES



**Telegraph Men**  
do well with our goods as  
a side line. Try it and see.  
Full particulars on application.  
Is the best too good for you?

**ERICSSON TELEPHONE CO., 296 Broadway, New York**

## THE TELEGRAPHERS' MUTUAL BENEFIT ASSOCIATION.

A FRATERNAL LIFE INSURANCE SOCIETY.

**INSURANCE, \$500 and \$1,000. THIRTY-THIRD YEAR.**

For Particulars address **M. J. O'LEARY, Secretary, Box 510, NEW YORK.**

# The Telegraph Age.

Entered as second-class matter at the New York, N. Y., Post Office.

Published on the 1st and 16th of every month.

## TERMS OF SUBSCRIPTION:

One Copy, One Year, - - - -	\$1.50
One Copy, Six Months, - - - -	.75
Foreign Countries, - - - -	2.00

ADDRESS ALL COMMUNICATIONS TO

**J. B. TALTAVALL,** - *Editor and Publisher,*

253 BROADWAY, NEW YORK.

E. H. BOWEN, MANAGER ADVERTISING DEPARTMENT.

W. M. GATES, SPECIAL ADV. AGT., 29 EUCLID AVE., CLEVELAND, O.

**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, March 16, 1901.

### As to Modern Business Methods.

The business methods obtaining in telegraph office management, while necessarily more stringent than that pursued in the earlier days, because of its vastly more extended and complex conditions, appears to be the text of some pertinent observations on the part of a telegrapher who writes at length on the topic to TELEGRAPH AGE. He is moved to express himself energetically, and in antagonism to what he believes to be the injustice and greed in many ways displayed by corporate management in dealing with employes. He evidently is an old timer, for he especially instances that if the daily average slip, as now generally employed, had been introduced into a telegraph office twenty-five or thirty years ago, when every operator was at least supposed to be actuated by conscientious motives in the performance of his duty, and who prided himself in doing an honest day's work, it would have been rejected; and further, that a storm of righteous indignation would have permeated the rank and file and swept down upon the luckless company with irresistible fury in the shape of a committee empowered to deal vigorously with the offending officials. While the average slip, cited as a feature of harsh modern management, may be objectionable per se, it is said that times change, and men with them; hence it may be true, as many officials assert, that the men themselves are in part to blame for this and other later day innovations. The standard of avowed conscientiousness, it is claimed, has been lowered, unfortunately, in many ways, thus making the imposition of more strict office measures imperative for the enforcement of necessary discipline. Thus it happens, as in every case where many men collectively are employed, that the good, steady and reliable men, for whom under no circumstances strict rules of government are required, are being punished, if that term may be used, without dis-

inction, and in line with those whose lax conduct caused these obnoxious systems to be introduced.

Yet it is true that when a man is obliged to make affidavit each day, testifying to the amount of business he has handled during that time, it is equivalent to his being informed that he is not and cannot be trusted to transact a reasonable day's work. To many high-minded and sensitive men such requirement is considered an exaction reflecting upon personal integrity and degrading to honorable manhood; that the tendency is to crush out the individuality of the man and reduce him to the level of a mere machine, in which no trust, brotherly love or human feeling is manifest or finds expression. It must be admitted that under such circumstances a state of sullen unrest and despondency is very apt to take the place of aspiration and desire to accomplish good work and be accounted responsible therefor.

### An Interesting Opinion.

The opinion of ex-President Chandler, of the Postal Telegraph-Cable Company, that the Government might operate the telegraphs a little more cheaply than the owning corporations, is interesting. It presupposes equally careful management, however, and bases the possibility upon the assumption that the Government would not expect the system to pay dividends. So, while it is interesting, it is pure assumption.

The fact is that Government management usually implies an amount of jobbery and political emolument more than equal to the greed of private possession. Government ownership means monopoly that is absolute. The only restriction upon making the service pay political rewards is the limit of an elastic conscience and the force of public sentiment. The private corporation, on the contrary, is always restrained by the fear of competition, even though it may have gained a practical monopoly.

### System of Wireless Telegraphy More Efficient Than Marconi's.

Since last autumn the navy department has suspended the experiments in the employment of wireless telegraphy as a means of communication between naval vessels and between vessels and the shore.

While it is true that Marconi has arrived in the United States, and that he may while here communicate to the navy department some proposition looking to the installation of his own system of telegraphy on our naval vessels, the navy department has not yet engaged him to do so.

Rear Admiral Bradford, the chief of the equipment bureau, has had conferences with some of the most eminent electricians in the United States as to the availability of the wireless telegraphy for naval use. The latest proposition has been broached by the department of agriculture. Secretary Wilson, who, hearing that the navy was casting about for a serviceable system of telegraphy, has written Admiral Bradford to notify him that the agricultural department has been experimenting for some

time with wireless telegraphy, and has attained remarkable results. His experts assert positively that they have evolved a system radically different from Marconi's, and of far greater efficiency.

The outcome will be watched with the greatest interest by all naval men, particularly in view of the announcement that not only Great Britain but Germany and other maritime powers already have ordered the installation of wireless plants in their navies.

#### A Well-Earned Promotion.

Mr. George Clapperton, who was made a director of the Postal Telegraph-Cable Company, at its annual meeting held in New York on February 26, has made a life study of the telegraph and cable service. Mr. Clapperton was born in 1854, at Er-call Magna, Shropshire, England. He has been



MR. GEORGE CLAPPERTON,

Recently Elected a Director of the Postal Telegraph-Cable Co.

engaged in railway and telegraph work since 1868. He was sent to America by the Direct United States Cable Company in 1874, and was an operator in its service until 1882. He was employed by the Western Union Telegraph Company, at Canso, Nova Scotia, from 1882 until 1884. In the latter year he was appointed superintendent of the Commercial Cable Company, with headquarters at New York, and on January 1, 1896, he was made traffic manager of the entire Commercial Cable Company's system, a position he still retains.

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

#### A Bright Young Postal Messenger.

In the Postal office at Jefferson City, Mo., Victor Blume, a messenger boy who is but thirteen years of age, and small of stature, is possessed of qualities that give promise of developing the young beginner into an expert telegraphist. His childish face would not suggest one competent to do almost anything connected with a telegraph office, but his company has handled many thousands of words that would otherwise have gone to the rival company because of this boy's shrewdness and accommodating disposition.

He has worked in the Postal telegraph office about four years. When there was nothing else to do he would work at the key till he mastered the Morse alphabet. He learned to know all about rates and could take charge of messages at the desk, but Manager L. A. Schirmer did not think of utilizing his knowledge of how to send messages until one day when the office was crowded with work. The quick intelligence of the child told him there would be a delay of press messages which were piling in fast that day. He sat down and began to send. That was a year ago, and now the operators in the Kansas City and St. Louis newspaper offices suppose Victor Blume to be a young man whose sending is not quite as rapid as that of more experienced men, but as clear and accurate. The local correspondents utilize him in their work. He goes to the office of the Secretary of State and copies some routine news items, and every day carries them to the office and sends them himself. At a time when other boys are in the ward schools, where he, perhaps, ought to be, this messenger boy is learning the work of correspondent and telegraph operator.

#### \$100 Limit for "Mental Anguish."

The Indiana Appellate Court, says the Western Electrician, in a case brought against the Western Union Telegraph Company, holds that when the basis of an action is mental anguish alone, unaccompanied by any bodily injury, as in case of a negligent failure of the defendant company to deliver a telegram announcing the death of the plaintiff's grandmother and the time of her funeral, there can be no recovery of damages, but the recovery must be limited to such a penalty as is given by statute, which in Indiana is \$100. The Indiana Supreme Court has decided the question otherwise (Telegraph Company vs. Reese, 123 Ind., 294), and the Appellate Court has certified its ruling to the Supreme Court with a recommendation that it overrule its former decision.

A merchant named Brown, dealing with the firm of Jones & Co., finding some goods ordered had been shipped over a road other than the route specified in his shipping directions, straightway sent a telegram, collect, to the firm, saying: "Goods shipped by other road contrary to shipping directions. Jones pays the freight." Quick as a flash came a refused payment service along with an answer, collect, saying: "Yes, and Brown pays the telegram."

## IN THE SHADOW OF DEATH A MOTHER PLEADED IN VAIN.

BY CHAS. C. BOYD.

She was a little, old, dried-up, stoop-shouldered woman, about 55 years of age. Her once black head of hair was now slightly streaked with gray. One could tell at a glance that she had not been reared in affluence. Almost anybody who has seen the people from the sand hills of South Carolina would have instantly recognized in this pale-faced old woman a typical sandhillian. This class of citizens makes its living principally by cutting up and bundling pine splinters for market. This kindling wood is called "light'ood" and sells for about 2 cents a bundle.

This "light'ood" is taken to town in small carts hauled by an ox, and not infrequently one sees a cow pulling the cart. Those who are so fortunate as to own a cow that will work in harness are considered by their fellow countrymen to be lucky indeed, for the cow does not only the hauling, but also furnishes the milk and butter for the household. It is not an uncommon sight to see a woman in one of these carts perched on a pile of "light'ood," with a home-made corn cob, or clay pipe in her mouth, and seemingly as contented in her position as is any queen on her throne.

The particular woman in question had not gone to market on this occasion with pine knots to sell, but she had traveled many miles in her little ox cart to Columbia to seek an audience with His Excellency, Governor Evans, to plead for an only son's life. She found the Governor in the executive chamber, where she stated her case and begged for mercy for her darling boy, as only a mother knows how to beg. Her pleadings were in vain, though, for the Governor told her that although he felt sorry for her, he could not interfere, and that the law must take its course; that the son had been tried before a jury of twelve of his peers, and having been found guilty of murder had been sentenced to die on the gallows.

The old woman ceased weeping, dried her eyes, and, bidding the Governor good morning, left the Capitol building.

She had made her last plea and had lost; all hope had vanished. She was resigned to the inevitable. She had done all she could do to save her dear boy.

She walked slowly through the principal business thoroughfare of the capital city, until she reached the front of the Western Union telegraph office, where she could hear the conglomerated sounds of half a hundred telegraph instruments. She halted, looked up at the signboard, a four-sided affair, about 12 feet high, and built around the office pole, which stood on the edge of the sidewalk. Although the old woman's education was very limited, she could not mistake the big white square letters on the electric blue background, and it was not hard for her to make out the words "Telegraph Office."

She had hoped that morning to be able to induce the Governor to send a telegram through this

same office to the Sheriff at Winnsboro, granting a respite for her boy. She had also written to the Sheriff that in case the Governor failed to interfere that he (the Sheriff) should send her a telegram when the execution was over. Entering the telegraph office she walked up to the counter and asked the time of day. The polite young man who acted as receiving clerk at the counter informed her that it was 11:45 A. M. The old woman stepped to one side, and stood there like a marble statue, as pale as death. It was not long before the young man who had spoken to the woman began to wonder why she was acting so queer. He asked another employe of the office if he knew what the woman wanted. Of course he could not tell him.

In about five minutes' time the woman appeared once more at the receiving window and asked again what the hour of day was. By this time one of the operators had volunteered to ferret out the mystery, so, stepping to the counter, he asked the old woman if she was expecting a telegram. To this question she replied yes, and at the same time began sobbing. She was then asked if any one was sick, or what the matter could be. It was then that the poor old woman, sobbing aloud, said she was expecting a telegram from Winnsboro; that she had an only son who was condemned to die at the hour of noon. She told how she had raised the boy from babyhood, how she had looked over him through sickness and health; that her husband had died when the boy was small, and that he had been her only comfort, and was all she had to live for. She told how, in a fit of anger, and made mad by drink, he had taken the life of a fellow countryman, and now he must die. She had no money to pay a lawyer's fee. The prosecution had money behind them and secured a verdict of guilty. She told how she had pleaded with the Governor for her boy, and how he had refused to interfere.

The old woman held in her hand a small package, wrapped in soiled newspaper. She had held this package all the while, and those gathered around the poor old creature were curious to know its contents, but out of respect for her sufferings they dared not question her as to the little bundle which she guarded so faithfully.

"Time!" shouted the man at the Washington wire.

By "time" it was meant that it was 11:57 A. M., and that the great clock in Washington was then connected with the telegraph wires, and would, for the next three minutes, strike the seconds on the many wires throughout the country.

The old woman asked why all had become so quiet, and why the sounders were all working as one. She was told that the wires were connected with the observatory in Washington, and that it was then striking 12 o'clock.

The old woman knew then that her boy Fred, the one for whom she had prayed so earnestly that day, was then on the scaffold and that in a few short minutes his soul would take its flight. She knew that there was no one with Fred to comfort him, for he had no relatives other than his mother, who had left him in the hope of saving his life.

"Twelve o'clock!" cried the man at the great switchboard. The three minutes' striking was over, it was precisely 12 o'clock, noon. Instantly the instruments began their busy hum.

The old woman was weeping bitterly. She knew that in a very short time she would receive the telegram from the Sheriff at Winnsboro telling her all was over.

"Answer Winnsboro," cried some one on the adjoining table.

One of the operators left the old woman, and, going to the wire on which Winnsboro was calling, received the message, which read:

"Your son Fred was hanged at 12 o'clock. Will send body to Plythewood to-night."

The message was taken to the poor old woman, who was still sobbing bitterly. She said she could not read writing, and requested that the contents of the telegram be read to her. This sad act was performed by one of the stout-hearted men of the office, but not without dampened eyes and quivering voice.

The old woman looked up to the papered ceiling above her and uttered a silent prayer. What that prayer was no one ever knew, but suffice to say that she asked God to take Fred into His keeping.

Then turning to the small package which she had placed on the counter while she had clasped her hands before her breast and made the silent prayer, she unwrapped the paper and took from it a long black veil and a pair of home-knit black gloves. Placing the veil over her weather-beaten face, and putting the gloves on her sunburned and scratched hands, she went to the wagon yard, hitched the ox to her little cart, and sitting on an empty tobacco box, she started for the sand hills to meet the corpse of her darling boy Fred.

#### A True Story.

In New Orleans, in 1889, an operator on the night force was going to his home late one night, or rather early in the morning. Reaching the suburbs, outside of the lighted district, the stillness of the hour and the current of his meditations were suddenly broken by a fierce command to "throw up your hands." As the assailant held a majority position, rendered so by the presentation of a cocked revolver, discretion became the better part of valor and the order was immediately complied with. A search in the right pants pocket of the victim revealed therein but 15 cents and a pocket knife, possessions not excessive, even for a telegrapher. The man with his hands up simply remarked to the would-be robber, who was grumbling because of his ill-luck, to "try the other side."

Darkness had prevented a recognition of the face, but the voice which spoke was familiar, and the highwayman immediately lowered his revolver, handed back the articles taken, and said, "Wo," receiving in reply the significant answer, "Gu," "Wo," "U." The footpad remarked, "I have long since dropped my sign, but I shall look for a job now and sign 'QT' for quit and be a man again." Then he added: "You don't know me, do you, Jackson?" This was answered in the negative.

"Do you remember the fellow that signed 'X' when you were working nights at 'BG'?"

Jackson thrust out his hand and said: "Shake, Barton; but how did you ever get into such devilish business as this?"

Barton told of his downfall, bad associates, drink etc., which causing him to lose his position, he had become desperate.

Daylight was now fast approaching, and with a hearty good-by and Barton's promise to let the night's experience prove a lesson to him and to begin life anew, the two men parted, Jackson going home and endeavoring to explain to his wife for his late coming, while Barton struck out for the road leading out of town, throwing his revolver in a pond by the wayside.

Six months had passed and Jackson had almost forgotten the little incident. One day he received a letter from Barton, dated at ———, Texas, stating that he had reformed and was then employed by the Western Union and was beginning to enjoy life once more. He closed by saying that he owed it all to the fact of having tried to rob his old friend, and begged that he might receive full forgiveness, a request which was cheerfully accorded by return mail.

Barton is now a chief dispatcher in the West, while Jackson has passed over the river and sent in his "30."

#### A LINEMAN'S LAST CLIMB.

BY BEN C. WILKINS.

Phil Denechau was rated one of the most expert linemen of his day; a wiry little Frenchman, strong as an ox and brave as a lion. The element of fear was absolutely foreign to his make-up. The feats he had accomplished on steeple tops and various elevated points would furnish material enough for a good-sized book.

I have known him to climb to the very pinnacle of the village church, stand on one foot and wave his hat to the terrified people below. As a steeple climber he knocked the persimmons from the highest limb, and on a telegraph pole, whether it was twenty feet or one hundred feet tall, he was as much at home as a monkey in a cocoanut tree.

Perhaps his ability found a high rating in my estimation from the fact that we were old-time friends, having attended school together up in old "Wisconse." When our school days were at an end we drifted apart, to meet ten years later in a little town in Iowa, on the Mississippi River, he as lineman and I as operator for the old Pacific & Atlantic Telegraph Co., whose lines extended along the river bank from St. Paul to St. Louis.

Cables were little used on land lines at this time, and where it was necessary to cross the river it was accomplished by the wire being stretched across from the tops of tall poles, or masts. At some points the distance between these poles would be nearly half a mile, consequently there would be considerable slack, and in order to carry the wire above the sky-scraping smokestacks of the big steamers it was necessary to use the tallest poles or masts possible.

Such was the case at the little town of which I write, the mast at this point being some three feet through at the base, the first section one hundred feet to the top, where cross-trees were attached and another pole, seventy feet long, reared its head into the dizzy heights above.

To stand at its base and look up to where its top seemed to be trailing in the clouds, was appalling—what must it have been to stand at its top and gaze down? But this was one of Denechau's daring feats which he had accomplished more than once. But every dog has his day, and so had Denechau.

The old Mississippi was on its annual June rampage; the water had already risen ten feet and was rapidly nearing the danger line when the slack in the wire would have to be taken up or some of the big steamers would become entangled and carry it down, which would reflect upon Denechau's record, and cause voluminous correspondence with the superintendent's office, and he always dreaded to receive mail bearing that post-mark, though he was conscious of performing his duty faithfully and well.

It was high noon; a great bank of fog had drifted down and settled over the bluffs like an ominous pall. The foliage was heavy and dripping with moisture; the mighty river, filled with floating debris, wrangled, roared and rushed along as if maddened with its extra burden, and disappeared in that vast chaotic bank of mist.

Several hundred people had gathered at the spot, as Denechau had given out that after taking up the slack he would stand on his head on the top of the pole, providing the day was calm.

The ascent on the iron steps to the cross-trees was easily and quickly accomplished, where he rested and adjusted his spurs, then upward like a squirrel he ran, and, reaching the top, waved his hat to the crowd below, who responded with a hearty cheer. Suddenly, and without warning, there loomed up in the fog only a few rods away the great black hull of the War Eagle, the fastest and most majestic steamer of the Northern Line, carrying the tallest smokestacks of any packet on the river.

A cry of horror arose, for the crowd had taken in the situation at a glance. Women wrung their hands and cried, children screamed and a shout went up as if from a hundred throats: "C-u-t t-h-e w-i-r-e, c-u-t t-h-e w-i-r-e, t-h-e W-a-r E-a-g-l-e's c-o-m-i-n-g." But Phil, with his back turned toward the steamer, was unconscious of the approaching danger. Nearer, nearer, nearer she came, her great black hull and immense funnels magnified to twice their natural proportions by the heavy background of fog. Her bells sounded, her engines reversed, her huge wheels threw up the white foam like the wind in a cotton field—but too late. You have seen a hickory sapling bent to the ground and suddenly released, or a bow drawn out and the rapid flight of the arrow—there was a straining sound as the wire became entangled in her pipes and drew taut. Over, over, over the pole was drawn until its top must have overlapped its base fully forty feet; there was a

sharp metallic twang as the wire parted and the pole with terrific force and rapidity flew into its upright position. There was a feeble cry from aloft—and Denechau shot into eternity as if hurled from a catapult.

#### A Letter from "Bogy."

The following is an extract from a letter recently received from "Bogy" (Henry A. Bogardus):

"I have been here on a ranch for two months with a friend of mine. It is located forty-five miles from Colorado Springs, fifty-two miles from Denver and four miles from a post-office, and consists of 320 acres. I find plenty to do around the place to keep my blood in circulation, but being up 8,000 feet above the level of the sea, the air is so light I find great difficulty to breathe after the least exertion. I am getting fat as a porpoise and correspondingly lazy, and if I had a bellows to fill my lungs with I would be right in it. Pike's Peak is in plain view, and looks to be about three or four miles distant, but it is forty miles away. A friend of mine (not an operator) met me in Colorado Springs and insisted on my coming here and resting myself, but I think another month will find me moving again for some unknown region. I have a strong inclination to go back to Chicago, but what I want there is more than I know. I will probably spend a couple of weeks in Colorado Springs before I finally decide which way to go. At times I feel like Jacob Just did:

"'And then, just as the brunt of battle o'er,  
And Peace displayed her olive branch once more;  
He, like another Cincinnatus, then  
Returned content to hold the plow again;  
And refused requital, seeking but the charm  
Retirement gave him on a country farm.'

"I noticed in recent Chicago chronicles in TELEGRAPH AGE something of W. R. Holligan being superintendent of the Postal. How is that? I supposed the Western Union owned Holligan. Guess I will have to go back there and see about these things."

#### Repeal of the Telegram Stamp Tax.

The telegram stamp tax of one cent on each message has been repealed, the same to go into effect on the first day of July next. The imposition of this tax, always regarded as of doubtful expediency, has been the cause of no end of annoyance in many telegraph offices, frequently causing delay in the transmission of messages, especially in the smaller towns, where stamps were not always readily procurable. Its repeal will be gladly hailed by managers everywhere.

It is announced that a billiard game by telegraph will probably be played this month. Billiard games by telegraph are a novelty in the sporting world, although long-distance tournaments in chess and some other sports are by no means new.

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

**Some Messages and Their Senders.**

According to a Chicago paper, a nervous old gentleman hurried into the downtown office of one of the big telegraph companies in that city, and rushing up to the counter secured a message blank from the clerk. He gave one swift glance around at the many clicking instruments, the flying messengers and busy operators and then began scribbling down his dispatch. In a few seconds he handed it over to the clerk, having absent-mindedly neglected to either write down the address of the person to whom the message was going or to sign his own name at the end of it.

"Who is this message for?" asked the clerk in a rather short tone of voice, as soon as he glanced at the slip of yellow paper.

"It's none of your business," snapped the old gentleman.

"There's no address on it. How am I going to send—"

"Oh, beg your pardon, I wasn't thinking for a second," and the man took the dispatch back and wrote in the address at the top of the page.

The clerk then took the telegram again and read it as he counted the words.

"What is your name?" he asked, as he finished the count.

"What in thunder has that—oh, did I forget to sign my name to the thing? Excuse me," and the name of the sender was added and the message was soon going over the wire.

"We see more kinds of people here in a day than you can find trading at department stores—at least they show more noticeable characteristics," said the superintendent of one of the big central telegraph stations in the heart of the city. "We even have crazy people drop in nearly every day and almost always have plenty of money to pay for the queer messages they write out. Sometimes these messages go over the wire when we have no good reason for stopping them, for of course, if the person has the money and does not manifest very strong symptoms of insanity, we can do nothing. However, if the signs of dementia are pronounced, we send over to the central station and have the police come over and take charge of the unfortunate man or woman.

"Many people do not understand the great secrecy maintained by the telegraph companies and all of their operators. Every telegrapher is under strong obligations never to reveal the contents of any message. I heard of one case in which a telegraph operator learned from the dispatches of an embezzlement that was about to take place, but his obligations as to the secrecy of dispatches rendered it impossible for him to do a thing in the way of revealing the contemplated crime, which was finally committed. A detective once came into my office and demanded to see a message which had been sent a moment before by a woman. She was suspected of some crime or of being a party to it, and he had been shadowing her. He flashed his star and demanded that I show him the message. I declined and he asked me how I knew that the woman was not a murderess, etc. I told him

it made no difference who or what she was, I could not show him the dispatch under any circumstances and that ended the debate.

"I have been in this business so long and studied message senders so many years that I have been able to divide our customers into six different classes. They are wolves, hyenas, jackals, coyotes, foxes and good, faithful Newfoundland dogs. I think nearly all of our customers can be put in one or the other of those six different classes. The wolf is the overbearing, domineering citizen who has no regard for the rights of others. He comes in here with great bluster and issues orders as if he owned all of the telegraph wires in the world and they were being operated exclusively for his especial benefit and the tone of his dispatches are perfectly in harmony with this spirit.

"The hyena hogs everything he can get off the telegraph company and off the people he is telegraphing to. He writes and rewrites his dispatch about twenty times and crowds it down to ten words at the risk of having it misunderstood. The jackal always tries to play both sides of the game. From his messages you can see that he is trying his level best to get himself in a position where he will come out on top, no matter how things go. He is apt to be treacherous, but perhaps not so much so as the coyote, who is a contemptible sneak of the lowest class. No skullduggery is too low for this last gentleman. He comes in and makes all kinds of inquiries as to the details of sending and receiving messages. He has some crooked scheme that he wants to work through the agency of the telegraph company, and he thinks if he can find out all of the details of handling messages he will find no difficulty in accomplishing his ends. The fox is the smooth, clever citizen, who uses a great deal of flattery and cajolery in his efforts to win your good graces to such an extent that he can secure some favor from you which you have no right to confer on any one. The dog is the good, generous, faithful friend, who telegraphs assistance whenever he finds his friends in need and who also sends long, liberal telegrams of congratulation or condolence at the proper time. He is as honest as the day is long and would rather do favors for other people than receive them himself."

The new catalogue, just issued, of the Smith Premier Typewriter Co., of Syracuse, N. Y., is fully up to the standard of artistic excellence which that company has established for itself in all of its printed productions. Green and orange colored inks are used on the inside pages with a pleasing blending, and the design, including that of the front cover, is marked by originality. The machine is pictured as a whole, all working parts are also separately shown, and every detail of construction explained. Users of this instrument, as well as intending buyers, will find much of interest in this catalogue, which may be obtained for the written request.

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

# TO OUR FRIENDS.

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

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

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

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

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

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

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

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

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

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

**J. B. TALTAVALL,**

**THE TELEGRAPH AGE,**

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

**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.

**BALTIMORE, MD., WESTERN UNION.**

The second annual meeting of the Telegraphers' Mutual Savings and Purchasing Association was held on February 18 and was largely attended. After transacting routine business, declaring a very satisfactory dividend and electing officers, those present spent a few hours in social enjoyment.

The following officers were elected: President, Samuel T. Shutt; vice-president, William Taylor; recording secretary, F. F. Basye; treasurer, J. C. Hawkins; executive committee, H. G. Montgomery, A. Grape, G. J. Rhein and J. C. Wagner.

Recent changes: J. A. Burt, from extra to regular; Reuben Burman, from main office to Fish Market.

Additions to extra list: J. A. Howard, John Crone and Fred Sigmund.

Being so near Washington, this office always catches some of the inauguration boom. This time it was quite heavy, but business moved very promptly and smoothly.

Recent visitors: Mr. M. W. Hamlin, Western Union manager, Milwaukee, Wis.; Ben Hallenstein, now a merchant of Chicago, and years ago a clerk here; Charles Kimberly, twenty-eight years ago an operator in this office, and since then for twenty-one years a naval paymaster, and Don Kinney, of the race department, New York.

**MONTREAL, QUE., CANADIAN PACIFIC.**

The amount of press matter from the Parliament House at Ottawa has been heavy of late, and especially at night. We have a few young machine men, however, on the night staff who are holding their own and turn out excellent copy. Among

those who deserve mention are: Thomas Massey, Joseph Flood, C. Gibeau and Robert Bunch.

Mr. W. G. Medley has gone to Sudbury, Ont., to relieve one of the men who is off on sick leave.

Mr. Thomas Greatorex has accepted a position at Holeb, Maine.

Mr. W. Limmer, of the Commercial Cable Co., Hazel Hill, N. S., passed through here en route from Minneapolis, whither he had gone to attend the funeral of his mother.

Mr. Frank Coombs has arrived from South Africa after an absence of over a year. He has been reinstated to his former position and assigned to the first Toronto.

Mr. Frank Spear has accepted a position with Burnett & Co., brokers. Nelson Noble has accepted a similar position with Forget & Co. Mr. John E. Galey replaces the former on The Associated Press wire, and Mr. J. Elmer Poole takes the place of the latter on the third Winnipeg.

Mr. W. T. Robinson, assistant chief operator, has been appointed manager of the Ottawa, Ont., office, vice Mr. H. Bott, who, it is said, will be transferred to this office. Mr. Robinson has already left for Ottawa to assume charge of his new position.

Mr. J. Mitchell is acting day chief, pending the arrival of Mr. Bott.

George Rivet has been promoted to operator, and assigned to the St. James' street ticket office, vice Harry Schraeder, transferred to the main office.

**VANCOUVER, B. C., CANADIAN PACIFIC.**

Mr. Alexander Laurie, a well-known and popular operator, died here on February 26, of consumption. He worked in Montreal, Winnipeg and Vancouver for a number of years, and was popular among a large number of the fraternity. He leaves a wife and three children, who are fairly well provided for.

A large party of men have left for the north to complete the Government telegraph line to Dawson City. It is expected the line will be finished in about three months.

Mr. Evan Goodfellow has left to accept a position on the Dawson line.

Mr. Edward Burchell has returned from a two months' visit to his old home in Halifax. He brought back a very pretty photograph of the place.

Mr. Charles M. Oliver, who is now manager at Rossland, B. C., paid us a flying visit recently.

**HAVANA, CUBA, NOTES.**

Sergeant Haughton and Operator Hullfish were detailed recently to the wreck of the Government transport MacPherson, near Matanzas.

We are expecting several first class operators from the States to fill in the vacancies occasioned by transfers and increase of business.

D. J. Crowley, who has been on leave of absence to New York, has resumed work at the Palace.

During the absence of Night Chief Owen, G. M. Stephens has been appointed to fill the vacancy.

Sergeant John C. Wheaton has received his discharge from the army and will now work in the Havana office.

Colonel Dunwoody, chief signal officer, has re-

turned from a trip to the States, where he had gone presumably in the interest of the telegraph department.

Night Chief Owen was married to Miss Gomez, a Cuban lady of Santa Clara, on March 3, and when he passed through Havana he was the recipient of an appropriate present in token of the fraternal esteem with which he is held by his co-workers in the Havana office.

New lines, incorporating the latest improvements, are being strung in Cuba, displacing the old and worthless wire that did service under the Spanish regime, and which has continued under the American occupation. We soon hope to have a system of telegraphy the efficiency of which cannot be surpassed by that of any country.

Operator Bauder recently relieved Mr. Alleyn in the Western Union cable office here, Mr. Alleyn returning to New Orleans.

Chief Lineman Schmidt will soon embark with 10,000 parrots for the States.

#### MEMPHIS, TENN., WESTERN UNION.

Our business office here has lately undergone a number of improvements. New railings have been put in and new pneumatic tubes connecting both exchanges, branch offices and business office with the operating room, have been completed. Manager Emmett Howard and Chief F. Ross are doing their utmost to make this an up-to-date office. Col. Fenn, chief electrician, is here superintending the changes.

Mr. Geo. B. Elmore, who has been in charge of the Union and Front branch for several years, has been transferred to the day force, main office. He is succeeded at the branch by Mr. E. A. Roper, late of New Orleans.

Mr. E. F. Walker, our veteran manager of the Cotton Exchange branch, has been confined to his home by a serious illness for the past month, but is now improving and hopes soon to be out.

With the coming of the Lenten season many marriages were in order in this city, and of course the Western Union had to be in line with a most popular wedding. The happy pair were Mr. Victor M. Crooker, our genial traffic chief, and Miss Mollie V. Byrne, formerly a check clerk and later an operator. After the ceremony Mr. and Mrs. Crooker left for New Orleans to attend the Mardi Gras celebration. The couple were handsomely remembered by their friends and fellow employes with a beautiful and costly silver set, and with the wishes of long life, health, wealth and happiness.

Among our late visitors here were Superintendent J. Compton, of Nashville, Tenn., and Mr. J. B. Taltavall, publisher of TELEGRAPH AGE.

#### DENVER, COL., WESTERN UNION.

Mrs. S. C. Hiliker, who has undergone a very serious operation at St. Joseph's Hospital, is improving. Every one wishes her speedy return to the office, where she has been a familiar figure for the past fourteen years.

Mr. Everett Goodell has returned after a two weeks' attack of grip. Ford Murphy has also had the grip. Mr. F. G. Gargan has been ill with the gout.

Messrs. Pedley and McKay left lately for California. Business being light in Denver, they thought traveling for pleasure would be to their liking. All hope they will soon be permanently located.

New arrivals: Messrs. Casey, from New York, and Alexander, from New Orleans, both with the Western Union.

Mr. J. A. Hogan had that "tired feeling" for three or four days, but has again resumed his old place on the Kansas City local.

Electrician W. N. Fashbaugh, spent several days in Ogden and in looking over the lines between Denver and Ogden.

Mr. Fred Wessel has returned from Kansas City after three months' leave of absence.

Operator Hogan reports the birth of a son February 23.

Mr. Fred J. Martin, who is with a firm of mining brokers, treated the force to candy and cigars upon the birth of a daughter on February 25. Fred is all smiles.

Mr. E. W. Simmons, formerly with the Morgan Brokerage Co., has located in Colorado Springs for the same firm. Mr. Simmons took with him a helpmate, for he and Miss Williams were married upon their arrival at the Springs.

Mr. Wm. Hunter, of The Associated Press force, left for Phoenix recently to permanently locate there. We all hope the change will do him a great deal of good and that he will soon regain his health.

Mr. M. R. Dwyer, who has been with the Western Union Co. in the Equitable Building for the past year, has resigned and accepted a position on the road traveling for a Chicago house.

#### CHICAGO, ILL., POSTAL.

George L. Durand, chief in the New York division, days, was called to his home in Ohio recently on account of the death of his mother. Much sympathy is expressed for him among his many friends.

Mrs. M. B. Asmussen had a very severe accident a short time ago, from which she is still suffering. During the latter part of February she fell on the icy pavement and injured her back. It is expected she will soon return to her duties, however.

Miss Bertha Boas is nothing if not in the fashion. She has just recovered from the grip.

Miss Alma Hahn has also been quite ill, but has again resumed her duties.

Miss Kathryn Riley, lately from St. Louis, has accepted a position with Joy, Morton & Co. We miss her pleasant smile.

Mrs. Helen Bradley Brockle has left us, after long years of service with the company, resigning March 1.

Miss Nellie Fiske, lately of the Western Union, has been added to the regular force.

Mr. W. G. Phillips, a young man who has developed an aptitude for wire work, has been given the position of "rider" on the San Francisco-New York wires, days.

## PHILADELPHIA, PA., POSTAL.

Signs of the incoming spring boom in business are already manifested. Manager Frank Scott, of the North Front Street branch office, did well in spite of dullness elsewhere; Manager Moffett, of North Third Street, celebrates his prosperity by having the office beautifully renovated. Business at the Bingham House office continues good under the excellent care of Miss Jennie Davis.

Mr. Finan has resigned the management of the Fifth and Market Street office, accepting a better position with the Western Union. He is relieved by Mr. Dowdell, from the Western Union Broad Street Station office. Mr. Mullen, also from the latter place, is now with this company at Third and Chestnut Streets.

Mr. William Madden has relinquished his place on the first New York bonus wire. He has not been enjoying the best of health of late.

On March 6 Mr. William P. Curl was in a retrospective mood, as that date marked the thirtieth year from the time of his opening the prosperous commission office in the Market Street dry goods district. During that time he became temporarily connected in outside commercial business, but soon drifted back to the key, and only a short time ago got away from the district altogether, and is now working a circuit in the main office.

Baseball fever is being developed among the operators, but thus far no team has materialized.

Miss Jennie Melville is looked upon as a reliable standby to serve in the Conshohocken test office when Mr. Greene is called out on line duty. She has been called upon on several occasions lately.

Miss M. V. Hagan is missed from the city department, being detained at home on account of illness.

Chief Operator C. A. Stimpson, has had his location embellished by the installation of a neat cabinet wardrobe and instrument case.

Much sympathy is expressed for our friend, Mr. John Shearer, formerly employed here, who had gone West, hoping to recover failing health. He died aboard the train on his way home.

Doctor John A. Moran is once more in charge at the Philadelphia Press office, vice Daniel Gillespie, who was compelled to resign on account of poor health. Mr. Gillespie has made his home in Denver, Colo., and is doing well.

That "great excitement is caused by little things" was clearly illustrated the other evening when a bat flew into the office, and, being unable to escape, sought rest and safety on one of the ceiling arches. Everybody became very much interested, but a big policeman, attracted by the excitement, proved a mighty force in exterminating the invader.

## PHILADELPHIA, PA., WESTERN UNION.

Messrs. Bair, Emanuel, Burns, Gould and Hoffman, of the day force, and Grady, Wineland, Griffin, Wornum and Mattson, of the night force, were sent to Washington to help out during the inaugural rush. They wish to express, through the AGE,

their thanks to the officials and operators of the City of Magnificent Distances for courtesies received.

Mr. John P. Ryan, manager of the Second street and Girard avenue office, was married recently to Miss Mary Straubmiller, of this city. The AGE extends congratulations.

Mr. S. S. Peck has resigned as manager of the Bullitt Building office and resumed duty at the main office. Mr. Finan succeeds Mr. Peck.

Mr. Joseph Abdill was sent to Burlington, N. J., during the illness of the manager at that place.

Miss Clara Gregg was absent several days, owing to the death of an aunt.

C. A. Dawson, of Washington, D. C., is a new arrival.

Under the supervision of Mr. I. N. Barto, of this office, the Western Union office at Tyrone, Pa., was recently moved into a more desirable location. The manager, Miss Lilian Antes, is correspondingly proud.

Mr. John Richards, for many years operator at Delaware breakwater for the Maritime Exchange, a gentleman highly esteemed by all who knew him, while laboring under a temporary fit of insanity due to illness, attempted suicide by inhaling gas. Failing in this, he jumped from a second-story window, receiving injuries from which he died shortly after. Mr. Richards was visiting relatives in this city, where he had come for medical treatment, when the fatal spell came upon him.

Manager Hudgins, of 305 Walnut street, was recently laid up with a dislocated ankle.

Night Manager Mr. J. P. MacLoraine has gone to North Carolina, among the pines, where he hopes to recover health and strength which he lost during several months of severe illness. A recent letter from him states he is recovering rapidly.

During the illness of the ticker operator at Atlantic City, N. J., Mr. B. M. Longstroth, of this office, was sent there to help out.

The great event takes place April 10. It is the Aid Society's initial euchre, hop and banquet.

## THE ASSOCIATED PRESS NOTES.

New York office: Messrs. E. A. Goshert and H. Graham have been appointed on the night force, the former vice J. H. Harley and the latter vice H. A. Holmsworth, the latter doing extra during the illness of Mr. Waugh.

Mr. G. R. Hill has also been transferred to night service.

Mr. W. L. Waugh, of the New York day force, is confined to his bed in Washington, D. C., by illness.

Mr. E. Wells is working the New York and Albany special wire during the session of the Legislature.

On account of the installation of a central office at Troy, N. Y., Messrs. A. V. Cooper and W. W. Casterline have been relieved. Mr. T. E. Burns, formerly operator at the "Times," has been transferred to night service, and Mr. T. A. Quinn, formerly of the "Press," doing day duty at The Associated Press Office, No. 8 Cronin Building.

C. E. Martin has been appointed to day service

on the New York State wire, and Mr. A. E. Inglee transferred to the editorial department.

Mr. F. Horstmann has been appointed as day operator at Schenectady, N. Y., vice C. D. Jayne, resigned.

Philadelphia, Pa.: J. J. Sillers, of day force, resigned.

Washington, D. C.: Messrs. W. Russell and C. Wister, extras during Congress, have been relieved.

Mr. W. L. Waugh has been transferred to New York on account of adjournment of Congress.

Austin, Tex.: Mr. W. D. Scott, resigned, has been relieved by Mr. D. G. Morgan.

Waco, Tex.: Mr. Fred. Bontz, resigned, has been relieved by Mr. E. H. Rogers.

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

"Dip" McCrudden was there; so were the two Joes—Joe Barry and Joe Holle—and the Telegraphers' Ball last month was a decided success, financially and socially. Everybody, apparently, attended, and had a splendid time. Among those present were: The Misses Leola C. Knoth, Fannie Bernstein, Aggie Denny, Anna T. Dean, Kate Walsh, Mamie Lacher, Mamie McHugh, Annie Shevlin, Etta Ostermann, Louise Stegeman, Lenora Murray, Teresa Grimes, Cora Van Dam, Belle Sinclair, Ida Ernesthauser, Ida Beehler, Helen Wetzell, and the Messrs. W. K. Kairn, H. V. Crain, Henry Van Dam, M. D. Crain, Jr., A. Jackson, G. H. Bagot, J. B. Holle, Frank Gorosky, Joseph Gruenfelder, Thomas Grady, T. Mullally, M. J. Cassidy, Henry Gosting, "Dip" McCrudden, J. R. Magill, J. R. Barry, A. Steinbach, C. W. Frey, G. A. Baron, W. A. Stallings, W. C. McCain.

Mr. A. M. Harris returned February 26 from his home at St. Thomas, Ont., where he passed a vacation of two weeks.

Miss Lillie Kavanaugh, of the Wheatstone, returned to work February 25, after a three weeks' absence, caused by grip.

Many thanks are due to Mr. J. C. Watts and the New York boys, who recently forwarded \$28 through TELEGRAPH AGE to Mr. H. B. Perham, secretary of the Order of Railway Telegraphers, for the M. D. Shaw fund. Mr. Watts stated that more still is coming. This money will apply in defraying the expenses of a headstone to be placed over the grave of the late Mortimer D. Shaw. Such good work has been done in New York and St. Louis for this fund that we wonder could not Chicago, Omaha, Kansas City and some of the other large towns help us. So far there has been received, not including the \$28 mentioned above, \$125.40. Of this amount \$45.95 is on hand after removing the remains to Sumner, Ill., where two sisters of deceased reside, and who will take proper care of the burial ground. A summarized statement of expenditures is as follows: City (St. Louis) charges for exhuming remains, \$3; undertaker's charges for zinc-lined, hermetically sealed casket, hearse, etc., \$57; transportation for remains and Mr. Alex. Frazier (to whom all credit is due), \$11.45; expenses in Sumner, digging grave, hearse, carriage, etc., \$8; total, \$79.45.

#### NEW YORK, POSTAL.

Mr. G. W. Norcross, after a long absence, owing to duties in other departments, has returned and been assigned to the Western Division.

Mr. G. O. Heath, of the St. Louis bonus wire, has returned after an illness of two weeks.

Miss Laura Hofheimer is still absent on account of the serious illness of her mother.

Resignations: William Briggs, to accept a position in a broker's office; E. A. Ramsay, to go with the Commercial Cable Company at their main office on Broad street. The changes of March 1 included the appointment of E. A. Coney as assistant to General Traffic Chief F. F. Norton; J. T. Needham, assistant to Wire Chief J. A. McNulty, and the transference of Mr. J. S. Zeiss to the Eastern board, with hours from 5:30 P. M. to 1 A. M., and Mr. J. B. Rex from the Eastern board to assist J. J. Fredericks, Western and Southern wire chief, nights.

The branch at 450 Columbus avenue, corner Eighty-first street, is under the management of Mr. J. Shanley. W. Orange is the day operator; J. B. Weighart, night operator, and T. Hamil, clerk. Mr. Shanley has been manager of this office ever since it was first opened, eleven years ago. The company has in Mr. Shanley a valuable manager, and his staff is a very efficient one.

The spring rush of business is on, consequently those that are looking for extra are happy.

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

Chief Operator B. P. Hancock, was sent lately to Memphis to locate a break in one of the Postal underground cables.

F. P. Mullen has resigned to accept a position with Cella & Co., brokers.

T. G. Coffy has also resigned, and is now with Schwartz, Dupee & Co.

G. E. Follette, late of this office, is working for a broker in Little Rock, Ark.

Other departures are: W. E. Whiting to Pine Bluff, Ark., with a broker; John Welch to the Western Union, Nashville, Tenn.

Arrivals: Miss Leona Kraft, C. J. Messman, D. J. Ellington, T. A. Gibney, J. F. Canavan, C. E.

---

#### 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.

Handley, J. M. Alvis, Geo. Matthews, C. A. Sowl, K. Madden, J. F. Lewis, H. G. Sparks, J. P. Miller and E. E. Mayman.

#### NEW YORK, WESTERN UNION.

In the last issue of TELEGRAPH AGE an advertisement was published in this column offering for sale a photographic view of the Brooklyn Bridge, and giving the name of Albert E. Sink as that of the advertiser. Of course, everybody knows that Mr. Sink is the manager of the operating room, and it is absurd to suppose that that gentleman has gone into the picture business. The appearance of the name of Mr. Albert E. Sink in the advertisement was due to error, another name being intended.

Dr. George Ryder, senior ophthalmic house surgeon of the Massachusetts Charitable Eye and Ear Infirmary, Boston, Mass., recently paid us a visit. The doctor, who formerly was a star telegrapher, is a son of Manager Elisha Ryder, of Hartford, Conn.

A memorial service by the Amaranth Council, Royal Arcanum, to the late Thomas W. Kelley, was held at the hall of the Long Island Historical Society, Brooklyn, on the evening of March 12. A number of telegraphers were present. Mr. Walter C. Burton delivered an oration on the life and character of Mr. Kelley.

An evidence that gratitude is not always dead is shown by an incident which lately occurred. A gentleman presenting an appearance of prosperity called here March 2 to inquire the whereabouts of Mr. W. J. Parrott, an operator who worked at "195" several years ago. Giving his reason for wishing to see him, he said: "I have just returned from the Klondike and am in condition to return a favor once shown me by Mr. Parrott."

Messrs. William McEvoy and E. J. Phillips, of this office, witnessed the Presidential inauguration ceremonies March 4, at Washington, D. C.

Mr. R. H. Morris, office electrician, is for the third time rejoicing in being a grandfather. His daughter Maude, now Mrs. Theo. Smith, of Bayonne, N. J., presented her husband with a daughter on February 10. Mr. Smith is naturally the proudest man in New Jersey.

Mr. Frank Johnson, formerly of "195," returned from the Berkshire Hills and is now employed at the Stock Exchange.

Miss Loretta O'Donnell was promoted from message assorter to copyist, March 8.

The following operators left here recently for Jacksonville, Fla.: Messrs. D. Drew, R. J. Walsh, F. L. Gerber, C. L. Hollywood, E. C. Bailey and C. J. Chryst.

Miss Belle M. Dennis, formerly of 1227 Broadway, and latterly employed by a brokerage firm in the Cotton Exchange, died at her home in this city, March 1. Miss Dennis was a brilliant operator, she having won a prize for fast and perfect sending at a tournament held in New York a few years ago.

Sympathy is extended to the Misses Grace, Ruth and Daisy Worthington, of this office, on the death

of their brother, which occurred after a long illness on March 4.

The song, "My Old Virginia Home Upon the Farm," words and music by B. L. Brannan, of this office, appears to have made a hit and is gaining considerable popularity. It was published March 3 in the New York Herald.

Mr. William Davis has been transferred from the Wheatstone department to the Buckingham printing system.

The dry goods district office, 255 Church street, is a busy place. Its personnel is as follows: J. W. Woods, manager; Messrs. F. J. Duggan, I. Turner, and the Misses M. A. Fennell, Anna Hall and A. B. Fitz Gerald, operators; Miss Lucie Gibbons, receiver; Miss Etta Sweeney, statement clerk; Messrs. Horace Yarrington and A. Rosenberg, respectively, delivery clerk and assistant clerk. Mr. Jerry Lyons is the manager of the American District Telegraph and Mr. W. T. Holland is clerk.

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.)

#### Boston Telegraphers' Mutual Aid Association.

The annual meeting of the Telegraphers' Mutual Aid Association of Boston, Mass., was held at Young's Hotel, that city, on March 3, and was attended by about 100 members. The treasurer's report showed that the assets during the year increased over \$500. The receipts from the annual ball were \$800.

During the year, according to the relief committee's report, \$850 had been paid out in sick and death benefits.

The officers elected for the ensuing year were: Michael F. Hart, president; A. V. Losea, vice-president; J. A. Molloy, recording secretary; H. L. Flynn, financial secretary; J. O. Roorback, treasurer; P. T. Cronin, sergeant-at-arms. These committees were chosen: Executive, A. V. Mann, W. J. Ryan, P. J. Farrell, F. J. Flynn; auditing, W. V. Price, Edward Smullen, H. H. Cooper, J. F. Carter, P. J. Molloy; relief, W. H. Sullivan, Miss M. W. Golden, T. J. Falvey, David Connell, C. J. O'Connor.

THE UNITED STATES MILITARY TELEGRAPH CORPS.—Col. Wm. B. Wilson, of Philadelphia, Pa., president of the United States Military Telegraph Corps, who is now in the West enjoying a vacation, reports that the late Congress did not act on any of the measures introduced in that body in behalf of the military telegraphers.



many the cross will entitle him to draw a modest pension.

Equally gratifying to the telegraphers is the emphatic testimony to the excellence of their work during the war in South Africa. Field Marshal Lord Roberts, in the full dispatches just published in the official London Gazette, says that, despite the enormous difficulties of the country traversed, his telegraphers almost always managed to keep him in communication with all his scattered forces in the enemy's country.

General Buller writes of their technical knowledge, their unwearying perseverance and their high state of efficiency, adding: "All officers, non-commissioned officers and men of the telegraph department have done exceptionally well. The only fault I have to find with them has been that they have been sometimes too anxious to keep their line up and have incurred undue risk."

Gen. Sir George White declares that the service of the telegraphers during the historic siege "was of the highest value and conducted greatly to the successful defense of Ladysmith." The use which General Baden-Powell made of his small band of telegraphers is by this time pretty well known. All his outlying forts and lookout posts at Mafeking were connected with headquarters, and he was thus able to receive reports and issue orders for all parts of the defense instantaneously. Signalling was reduced to a fine art and maintained by heliograph lamp and flag. Megaphones were also made and used in outlying trenches and posts, and phonophores, attached to ordinary telegraph lines, were used on the armored trains which used to bother the Boers so much.

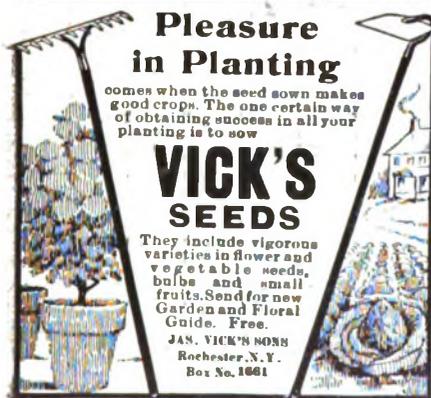
General Baden-Powell thus sums up his appreciation of the services of the gallant telegraphers: "Their duties were unceasing, by night as well as by day, and were frequently carried out under heavy fire and at great personal risk. The zeal, energy and willingness displayed by these officers was most conspicuous throughout the siege, and their work had a large share in bringing about the successful issue of the siege."

**Leadville Man Receives His Reward Here on Earth.**

According to old Farmer Lawton, the night chief operator of the Western Telegraph Company, Denver, Col., the Legislature of that State would not be called upon to offer a bounty in order to increase Colorado's population if all men were as public-spirited as Col. B. Brooks, superintendent of the Western Union in that city.

The old farmer says that whenever there is an increase in one of the operator's families, if it happens to be a girl, which Colonel Brooks seems partial to, it means a \$15 to \$25 increase in that operator's salary. For instance, Mr. Martin has been drawing \$75 per month here for several years. Recently his wife presented him with a fine girl baby, and Colonel Brooks appointed him manager of the Leadville office at \$100 per month.

"Boys are good for a \$5 or \$10 raise in Mr. Brooks' estimation," said the farmer. "When my first boy made his appearance fourteen years ago, my salary was immediately increased \$10 per month, and since then the young farmers have been coming so thick my conscience actually smites me when I sign the pay roll each month."



**Pleasure in Planting**  
comes when the seed sown makes good crops. The one certain way of obtaining success in all your planting is to sow

**VICK'S SEEDS**

They include vigorous varieties in flower and vegetable seeds, bulbs and small fruits. Send for new Garden and Floral Guide. Free.

JAS. VICK'S SONS  
Rochester, N. Y.  
Box No. 1861

**Taltavall's Telegraphers of To-day.** Descriptive, historical and biographical. 355 pages and 700 engravings of the prominent telegraph people. Price, \$5.00; expressage prepaid. Address J. B. Taltavall, 253 Broadway, New York.

**The Modern Service of Commercial and Railway Telegraphy** (8th Edition, revised and enlarged), by J. P. Abernethy. The theory and practice, including railway station and express service. Arranged in questions and answers. 425 pages, 40 illustrations. Price \$2.00, expressage prepaid. Address John B. Taltavall, The Telegraph Age, 253 Broadway New York.

"The Standard Work on Telegraphy."

**AMERICAN TELEGRAPHY:**

**SYSTEMS, APPARATUS, OPERATION.**

450 Diagrams, 575 Pages, 34 Chapters.

By **WILLIAM MAVER, Jr.**

Bound in Cloth, . . . . \$3.50  
Sent, express charges prepaid, to any part of the world upon receipt of price.

**J. B. TALTAVALL,**  
The Telegraph Age,  
253 Broadway, NEW YORK.

**IMPORTANT TO YOU**  
J. S. TOWNSEND—The Telegraphers' Jeweler, 1554 Wabash Ave., Chicago, offers any article in his elegant stock at net whole-sale prices. A rare opportunity. Any watches or jewelry advertised can be bought at a lower price from this well known firm. J. S. TOWNSEND, 1554 Wabash Ave., Chicago. Our 400-page catalogue sent on application Agents wanted. Established 1877.

**JEWETT**



**THE TELEGRAPHERS' TYPEWRITER.**  
Popular because of instantaneous paper feed facility for inserting characters and correcting errors.  
The new Model No. 4 is without a peer.

**JEWETT TYPEWRITER CO.**  
New York Office, 200 BROADWAY.  
DES MOINES, IOWA.

**TYPEWRITERS FOR SALE, TO RENT and REPAIRED,** Remington, Smith, Densmore and all makes sold or rented on easy monthly terms to telegraphers. Send for samples, catalogues and full information to E. M. Bennett, Manager, **THE TYPEWRITER EXCHANGE,** 38 Bromfield Street, Boston, Mass.

# SEAL OF NORTH CAROLINA PLUG CUT

is a mild, cool, mellow and satisfying tobacco of the highest quality and is the most popular and largest selling brand of "plug cut" smoking tobacco in the world! The reason for this is that the leaf that "Seal" is made of is cured in its own native climate—in the sunshine and balmy atmosphere of the southern states, where pipe tobacco originated. A full size trial pouch will be sent by return mail on receipt of ten cents in postage stamps by  
The American Tobacco Co.,  
111 Fifth Avenue, New York, N. Y.



I have used Piso's Cure for Consumption for colds, and found it a splendid medicine, as it gives instant and (when taken according to directions) lasting relief, and I would recommend it to all who are so troubled.—R. J. COYNE, Directory Department of Chicago Post Office, Chicago, Illinois, April 7th, 1899.

**Maver's American Telegraphy.** A thorough Encyclopedia of the Telegraph. Over 600 pages, 450 illustrations. Price, \$3.50, express charges prepaid. Address J. B. Taltavall, 253 Broadway, New York.

## THE EDISON PHONOPLEX SYSTEM OF TELEGRAPHY

INSURES CONSTANT COMMUNICATION.

It WORKS through all kinds of trouble and weather.  
Are you using it? If not, write to its patrons and ascertain their opinion of it.

SOME USERS OF THE PHONOPLEX SYSTEM:

- |   |   |
|---|---|
| Western Union Telegraph Co.               | Kansas City, Fort Scott & Memphis R. R. Co.   |
| Illinois Central R. R. Co.                | Kansas City, Council Bluffs & Omaha R. R. Co. |
| Boston & Maine Railroad.                  | Colorado Midland R. R. Co.                    |
| New York, New Haven & Hartford R. R. Co.  | Central of Georgia R. R. Co.                  |
| Lehigh Valley R. R. Co.                   | Chicago & Grand Trunk Railway.                |
| Central Railroad of New Jersey.           | Standard Oil Co.                              |
| Baltimore & Ohio R. R. Co.                | Tide Water Pipe Line.                         |
| Baltimore & Ohio & Southwestern R. R. Co. | Atchison, Topeka & Santa Fe R. R. Co.         |
| Pennsylvania R. R. Co.                    | Southern California Railway Division.         |
| Union Pacific R. R. Co.                   | Atlantic & Pacific Division.                  |

Catalogue and Further Information upon Application. **THOMAS A. EDISON, Orange, N. J.**

### THE IDEAL SIGHT RESTORER



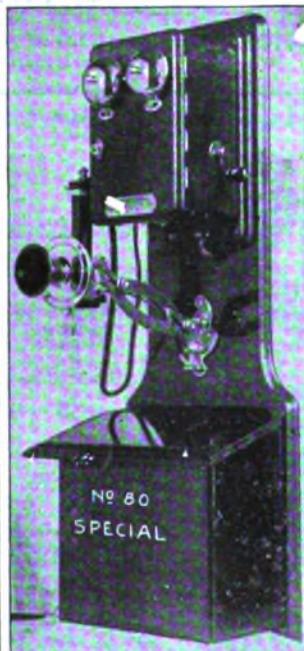

**WE RESTORE SIGHT!**  
GLASSES RENDER DEFECTIVE VISION CHRONIC.

Write for our **ILLUSTRATED TREATISE,** Mailed Free.

**THE IDEAL COMPANY,**  
239 BROADWAY,  
NEW YORK.

**The Modern Service of Commercial and Railway Telegraphy** (8th Edition, revised and enlarged), by J. P. Abernethy. The theory and practice, including railway station and express service. Arranged in questions and answers. 425 pages, 40 illustrations. Price \$2.00, expressage prepaid. Address John B. Taltavall, The Telegraph Age 253 Broadway, New York.

**OUR FREE BUGGY OFFER.** WE SELL BUGGIES, CARRIAGES and all kinds of vehicles at very much lower prices than you can buy elsewhere. We send the goods to any address by freight C. O. D., subject to examination, payable after received, examined and found far greater value than offered by any other house. Don't buy a buggy, surrey or rig of any kind until you get our new 1901 Buggy Catalogue. Cut this ad out and send to us at once and we will send you the new 1901 Buggy Catalogue by return mail. Address: **SEARS, ROEBUCK & CO., Chicago.**



## TELEPHONES

**FOR LONG LINES  
SHORT LINES  
PRIVATE LINES  
EXCHANGE LINES  
TOLL LINES**

and All Lines of Business

YOU KNOW THE  
KIND:

### The STANDARD.

A CRITERION OF  
EXCELLENCE.

**Standard Telephone AND Electric Company**  
MADISON, WIS.





**Pabst**  
**Malt Extract**  
The Best Tonic

Q—What is the man in the window doing?

A—He is taking out a bottle of Pabst Malt Extract, The "Best" Tonic.

Q—What is he going to do with it?

A—He has sold it to a customer.

Q—Why does the customer buy The "Best" Tonic?

A—Because it is a perfect health restorer. It builds up the run down system, it restores the tired and nervous to health, strength and that comfort and happiness which come from perfect mental and physical equilibrium.

Q—Do druggists sell much of The "Best" Tonic?

A—Yes, more than any other malt preparation. Many of them give their entire window to such a display as this one.

Q—Who makes The "Best" Tonic?

A—It is carefully and scientifically prepared under medical supervision by

**PABST BREWING CO.**  
(Tonic Dept.) Milwaukee, Wis.

NEW LIST  
OF  
**PRESENTS**  
FOR  
**TOBACCO TAGS**

IS NOW READY FOR DISTRIBUTION

"STAR" and "E. Rice, Greenville" tin tags (printed in colors on under side of tags), "Horse Shoe," "J. T.," "Good Luck," "Cross Bow," "Drummond" Natural Leaf, "Spear Head," "Old Honesty," "Master Workman," "Sickle," "Nobby Spun Roll," "Brandy Wine" tin tags, and tin tags from "Standard Navy" and paper tags from "Planet" and "Neptune" Plug are of equal value in securing Presents and may be assorted.

If you have not already received one of the handsome Catalogues, illustrating all of the useful and valuable Presents offered, send in your name and address and a Catalogue will be sent to you, FREE.

**Continental Tobacco Company.**

Write for Catalogue and send tags and requests for Presents to

**C. Hy BROWN, 4241 Folsom Ave., ST. LOUIS, MO.**

**GOLD AND STOCK LIFE INSURANCE ASSOCIATION**

TWENTY-FOURTH YEAR.

For Telegraphers and Others in Electrical Service.

INITIATION FEE, \$1.00; DUES, 50 Cents per Month; INSURANCE, \$500.00, in payments of \$50.00, per Month for Ten Consecutive Months.

WM. J. DEALY, Secretary, 195 Broadway, New York

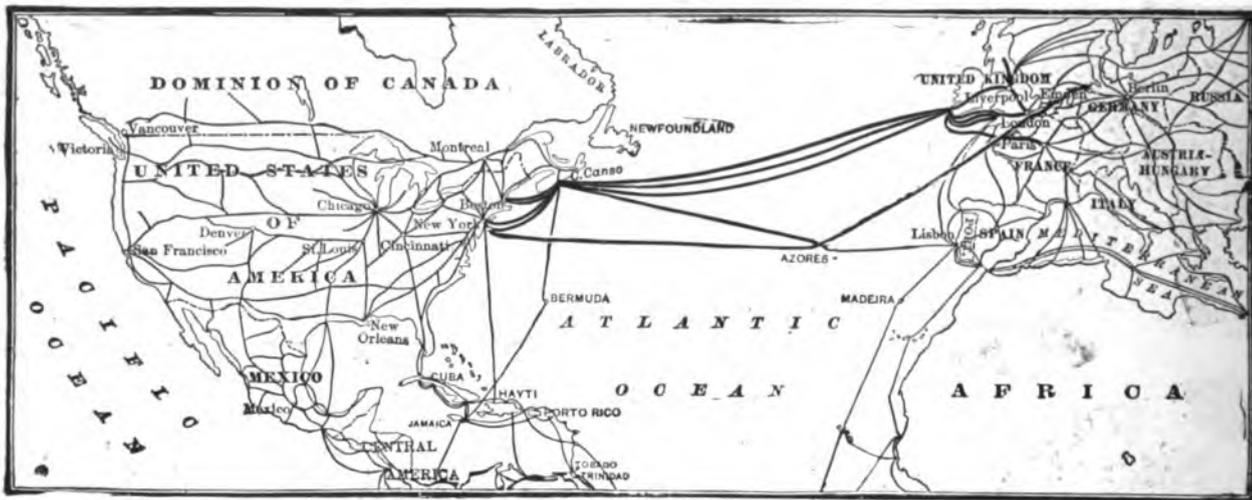


# COMMERCIAL CABLE CO.

Four Duplexed and Automatically Operated Atlantic Cables

IN CONNECTION WITH

POSTAL TELEGRAPH-CABLE COMPANY,  
 CANADIAN PACIFIC RAILWAY TELEGRAPHS,  
 HALIFAX & BERMUDAS CABLE COMPANY,  
 DIRECT WEST INDIA CABLE COMPANY,  
 DEUTSCH-ATLANTISCHE TELEGRAPHEN-GESELLSCHAFT  
 (GERMAN ATLANTIC CABLE COMPANY).



EXECUTIVE OFFICES,  
 POSTAL TELEGRAPH BUILDING, N. Y.

JOHN W. MACKAY, PRESIDENT.  
 GEO. G. WARD, VICE-PRES. & GEN'L MANAG.

## Postal Telegraph=Cable Company.

EXECUTIVE OFFICES,

253 Broadway,

New York, October 1st, 1900.

### TO OUR PATRONS:

Persistent rumors are in circulation regarding a pending combination of the Postal Telegraph-Cable Company, Commercial Cable Company, Western Union Telegraph Company, and American Bell Telephone Company with the Telephone, Telegraph and Cable Company of America.

The officers of the Postal Telegraph-Cable Company and of the Commercial Cable Company deny emphatically that either company is contemplating any such combination and state that the control of the Postal Telegraph-Cable Company and of the Commercial Cable Company is not for sale.

Very respectfully,

POSTAL TELEGRAPH-CABLE COMPANY

By

WM. H. BAKER,

*Vice-Prest. and Gen'l Manager.*

(Remember to mention TELEGRAPH AGE when corresponding with advertisers)

---



---

# WESTERN UNION TELEGRAPH COMPANY

EXECUTIVE OFFICES:

**195 BROADWAY, NEW YORK.**


---



---

 THOS. T. ECKERT, President and General Manager.
 

---



---

## THE LARGEST TELEGRAPHIC SYSTEM IN EXISTENCE

---



---

### 900,000 MILES OF WIRE. 22,500 OFFICES.

---



---

#### TWO AMERICAN ATLANTIC CABLES

From New York City to Penzance, England, direct. Both cables are duplexed. Connects also with FOUR ANGLO-AMERICAN and one DIRECT UNITED STATES CABLES. Direct communication with GERMANY and FRANCE. DIRECT WIRES to GALVESTON, TEXAS, connecting at that place with the Cables of the MEXICAN, the CENTRAL and SOUTH AMERICAN TELEGRAPH COMPANIES for

ALL POINTS in MEXICO and CENTRAL and SOUTH AMERICA.

DIRECT WIRES and CABLES to HAVANA, CUBA, connecting at that place with the CUBA SUBMARINE and WEST INDIA AND PANAMA TELEGRAPH COMPANIES for

ALL POINTS IN THE WEST INDIES.

---



---

Exclusive connection with the Great North-Western Telegraph Company of Canada.

---



---

Offices in Great Britain:

**252 Gresham House, Old Broad Street, London, E. C.**

40 Mark Lane, London, E. C.

21 Royal Exchange, London, E. C.

109 Fenchurch Street, London, E. C.

Effingham House, Arundel Street, Strand, London, W. C.

2 Northumberland Avenue, London, W. C.

15, Exchange Buildings, Liverpool.

Northall Chambers, Baldwin Street, Bristol.

29 Gordon Street, Glasgow.

10 Forster Square, Bradford.

1 Panmure Street, Dundee.

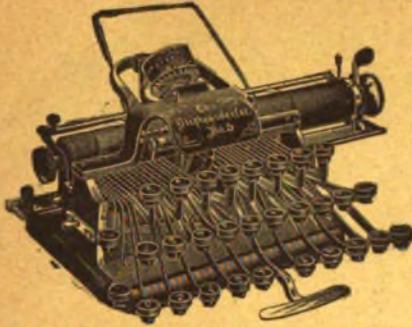
106 George Street, Edinburgh.

Exchange Buildings, Leith.

7 Royal Exchange, Bank Street, Manchester.

1 Side, Newcastle-on-Tyne.

# BLICKENS DERFER No. 5.



Low Price.

Full Key-Board.

Writing Always in Sight.

Portability.

Excellent Manifolder.

Direct Printing and Inking.

OFFICIALLY ADOPTED  
by the  
POSTAL TELEGRAPH-  
CABLE COMPANY.

OFFICIALLY ADOPTED  
by the  
WESTERN UNION  
TELEGRAPH COMPANY.

Interchangeable Type.

Most Durable Machine Made.

Least Number of Parts.

Weight, Six Pounds.

For Price and Terms Address, **BLICKENS DERFER M'FG CO., Stamford, Conn.**

## FRANKLIN TYPEWRITER VISIBLE WRITING.

Perfect Alignment. Simplicity. Durability and Speed.

## FRANKLIN TYPEWRITER

812-814 Greenwich Street, New York.



Received Only Medals Awarded World's Fair, Chicago, 1893.

### COVERING INSULATED WIRES AND CABLES,

FOR  
Aerial, Underground,  
Submarine and Interior Use.



### KERITE TAPE.

Catalogues, Samples and Prices on Application.

FOR  
Telephone, Telegraph, Power and Lighting.

**W. R. BRIKEY,**  
MANUFACTURER.

**203 BROADWAY, NEW YORK.**

CALIFORNIA ELECTRIC WORKS,  
San Francisco, Cal.



Telegraph Operators  
will find that the

### NUMBER FOUR YOST LATEST MODEL

contains many improvements  
that are of special advantage  
in their work.

**YOST WRITING MACHINE CO.,**

No. 316 Broadway, New York.

## THE WESTON STANDARD VOLTMETERS AND AMMETERS.



The Weston Standard Mill-Ammeters and Ammeters are infinitely superior to galvanometers for tests of current strength on lines and for tests of Relays, Sounders and other Telegraphic Apparatus. They are direct-reading, dead-beat, and are practically un-influenced by the earth's field. No constants are required, and with careful use there is no necessity for recalibration. The Weston Standard Voltmeters are the very best practical instruments obtainable for determining the electro-motive force of single cells, or series of cells, or for ascertaining the voltage on lines. By the proper use of these instruments all tests of resistance, current, strength and electro-motive force required in telegraphic practice can be made with great ease and accuracy. Correspondence solicited.

**WESTON ELECTRICAL INSTRUMENT COMPANY,**

114-120 William Street, NEWARK, N. J.

BERLIN: European Weston Electrical Instrument Co., Ritterstrasse No. 88.

LONDON: Elliott Bros., No. 101 St. Martin's Lane.

## TRY



WE DON'T SPEND  
The Almighty \$

to advertise cheap goods. There is no trick in making or selling them; the best is none for good, though we have been told N. I. R. is.

Write direct to N. I. R. CO., BRISTOL, ENGLAND.