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VOL. VI—No. 20.

NEW YORK, MARCH 16, 1889.

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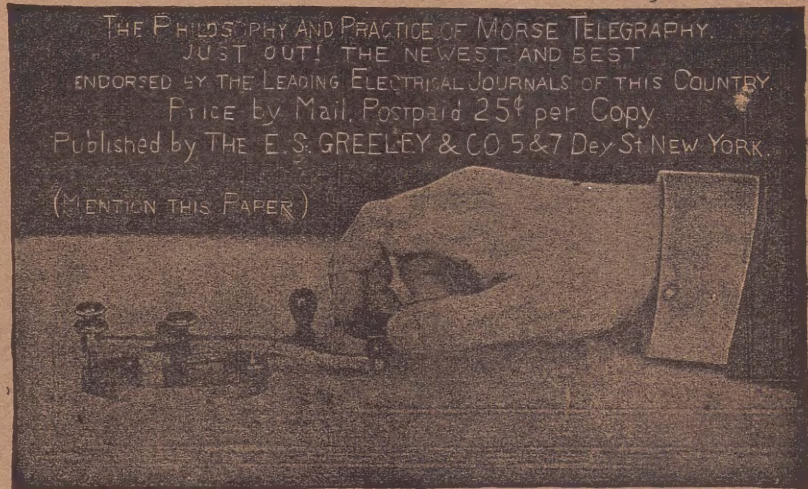
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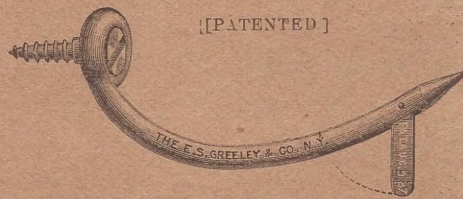


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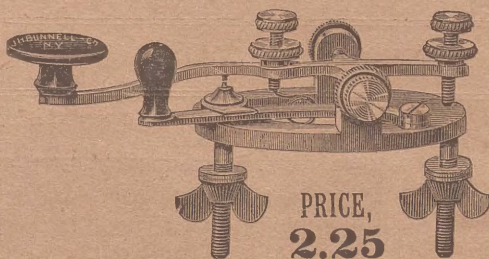
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C. G. Muller, Esq., Agent Caligraph, Cincinnati, O.

October 5th, 1885.

above statement of our operator.

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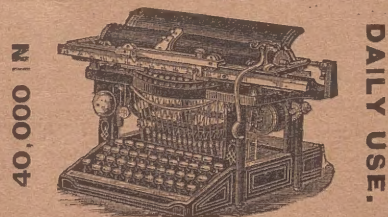
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NEW YORK, MARCH 16, 1889.

In England they are felling trees by electricity.

In lighting Paris all machinery, wires and apparatus employed must be exclusively of Paris manufacture.

Electricity during a storm, according to Sohneke's theory, results from the friction of drops of ice and water.

The Chicago Electric Club has decided on a formula for the determination of the amount of insulation required for wires.

In the Lowth telephone speech is transmitted without making use of sound waves, as is usual in telephones now in service.

The Postal Telegraph Company, Washington, D. C., has applied for a permit to put down more underground cables of the "Waring" patent.

Over two hundred cities and towns are preparing to introduce electric lighting, and the builders of electrical machinery are crowded with work.

The electric lighting system as applied to the buoyage of our outer harbors has been so successful that it will in all probability be introduced elsewhere.

In low-tensions arc lights the upper carbon becomes more incandescent than in high-tension lights and contributes a greater proportion to the illuminating power of the arc.

The rapid spreading of the technics of electric lighting is said to be devoid of a natural basis as long as there is no theoretical and practical soundness in the construction of dynamos.

The time will come, says an exchange, and it is not far distant, when the telephone will be used as extensively in the country as it is now in the large cities, and the farmer will call the village doctor, or the undertaker, or give an order to the butcher or the groceryman by the use of the most wonderful of modern inventions. Every farm house will be brought into communication with every other house in the neighborhood as well as with the nearest village.

The Edison Mutual Telegraph Company has begun fitting up its office in the Wayne Hotel, Ft. Wayne, Ind. Mr. Charles Miller, of the Fort Wayne Jenny Electric Light Company, will be the operator.

The New York linemen to the number of five hundred have lost their positions owing to the Mayor's mandatory orders to allow no further building or repairing of wires in the city of New York. The Mayor threatens to cut down the poles, if the companies do not remove them within thirty days. It is needless to add that the Mayor will have to do the removing if he desires it done—the companies won't.

A new telegraph line has been completed from New York to Boston by the Empire and Bay States Telegraph Company. Construction work was finished about a fortnight ago, having occupied about two years. The route runs through Hartford, New Haven, and Providence. It is not likely that the line will be opened for business at present, for the directors prefer to test it by experiments until all that is claimed for it shall be satisfactorily developed. It is to be operated by the multiplex system. The directors are hiding their personality, in order to escape injuries. The line may undergo ramification and extension before public patronage will be invited.—*Ex.*

THE IDEAL CABLE STATION.—It is a curious fact that all the Atlantic cables have been landed at the most desolate spots in the world, for what reason no one knows. A correspondent who has been a resident of St. Pierre, Newfoundland for several years describes the place as follows:

"No amusements; no distractions. No club, not even a bar parlor. As foreigners, no nationality and no individuality. No walks or drives, no trees or verdure. Not twenty square yards for a game of cricket, base ball, foot-ball, or tennis—hardly a piece for quoits, even if the quoits could be warmed to allow their being handled without gloves. No pleasurable bathing, boating or fishing. No beach, except fish, bones, and shingles. Food nearly always bad and often precarious. Climate five months blizzard winter—three months cold and rainy—three months fog, and one month doubtful, total twelve. The extra day in leap year must have been designed to give St. Pierre a summer."

What a pity it is that those who are responsible for landing cables at such places were not compelled to take up their permanent residence at them.

HERE'S QUICK SERVICE FOR YOU.—Last Monday afternoon a customer approached the receiver's window in the Central Cable office, and angrily complained that a cablegram he had sent on Saturday afternoon to London was not delivered until 2.30 Monday afternoon. An immediate investigation developed the fact that the message had not been filed in the cable office until 9.23 Monday morning, (equal to 2.23 p. m. London time,) and instead of being an instance of bad service, it showed very brilliant service, only seven minutes being consumed in cabling and delivering the message. The customer was dumbfounded at the showing, and could not understand it until his clerk confessed that he had forgotten the message on Saturday, and brought it to the cable office on Monday, never suspecting that his negligence would be detected.

Another instance of the annihilation of time and space, was shown in the cable correspondence of a prominent banking house, a few days ago. At 11.30 A. M., message number one containing a business proposition, was received in New York. A reply was sent, and before the transaction was closed, each party had sent eight cablegrams, making a total of 16 messages. Only forty-five minutes were required for the consideration of the proposition by the two houses, the transmission and the delivery of their messages. Numerous other incidents of the phenomenal speed of the Atlantic Cables could be cited, but these two specimens tell the story sufficiently.

A SKETCH OF THE HISTORY, DEVELOPMENT
AND PRACTICAL APPLICATIONS OF THE
ELECTRICAL CONDENSER.

BY WM. MAVER, JR.

From *The Electrical Engineer, New York.*

PART I.—*Continued*

Sir Wm. Snow Harris, however, in the preface to "Fric-tional Electricity" takes up the defense of Volta as the inventor of that instrument, and incidentally states that "M. Biot in his life of Volta seeks continually to disparage the quality of mind of that truly great man, upon the ground that his researches and discoveries had not a rigorous mathematical basis, etc., and is hence led, although constrained to admit the vast genius of Volta, to refer nearly all Volta effected to previous principles mathematically deduced by Aepinus, although no one ever heard of the condenser or the electrophorus before Volta. Still we are informed that the principles were foreseen and their theory given twenty years before by Aepinus.

The evolution of the Aepinus induction plates into the form of apparatus known to-day almost universally as the electrical condenser had begun to take shape prior to 1840, but the manner in which the instrument is referred to by different writers seems to indicate that it had not yet received a definite name and further that it was classed neither with the Leyden jar nor with the Volta condenser. Indeed it may be noticed that both prior and subsequent to 1840 various writers carefully avoid applying either the term condenser or Leyden jar to the instrument, and instead refer to it as a "reservoir," "extended, insulated, metallic surface, etc." For example, Sturgeon in his *Annals of Electricity*, 1836, refers to what has since been termed by others, a card-board condenser, as follows: "These boards answer exceedingly well as a *reservoir* for low intensities. They may be coated to within an inch of the edge all round and placed upon their edges either on a piece of glass or on a board properly prepared and arranged to any extent required, like the plates of a voltaic battery, but when considerable intensity is desired it is better to use thin glass."

Again referring to an arrangement, which he says is a modification of his card-board reservoir, used in connection with an electro-magnetic machine of Rainey's in the same year, Sturgeon writes, "about three yards of varnished silk cloth were coated on both sides by broad strips of tin-foil and coiled around a cylindrical nucleus of wood, an intervening ply of silk preventing the two coatings from touching."

Again, in Silliman's *Journal*, 1838, Professor Page, in describing a series of striking results from the secondary current of a new magneto-electric machine, states, "It caused the gold leaves of the electroscope to diverge strongly without the aid of a Leyden jar or extended insulated metallic surface."

Still later, in Bakewell's *Manual of Electricity*, edition 1857, is found the following: At the recommendation of M. Fizeau a large conducting surface consisting of several square feet of the tin-foil pasted on each side of varnished silk, is connected with each of the wires through which the voltaic current is passed."

In 1854 C. F. Varley, in British patent No. 2,555, for "Improving and applying Dynamic Electricity," describes a form of condenser practically similar in construction to those in use to-day, which he termed "induction plates" and describes as follows, with a diagram here reproduced as figure 5, (which is virtually the present conventional manner of graphically representing the condenser.) "Figure 5 is an end view of a series of induction plates, which are to be laid close to each other, but here they are separated to show them. A pile of these form a Leyden battery. They may be put together in various ways * * * the sheets (induction plates) are of tin or some other metallic foil (separated by) sheets of oiled silk, gutta-percha or other non-

conducting surface * * the gutta-percha (or insulating) sheet being larger in every way (than the metallic foil) prevents the opposite foils from touching each other."

In his British patent 1,509, 1859 Mr. C. F. Varley still adheres to the term "induction plates" in referring to condensers.

Of course it is not meant to imply that these writers were not aware that the electrical law or laws governing the action of the Leyden jar, Franklin's plate, etc., were similar to those governing the Volta condenser, but rather to show that they were so familiar with the specific function of the condenser as then understood that the use of that term would not have properly defined, to their minds, the new arrangement and construction of the plates to which they had reference.

Some subsequent writers, however, perhaps losing sight of the earlier specific function of the condenser, have had no hesitation in defining the term; as, for instance, in Beechey's *Electro Telegraphy*, page 95, it is said, "* * * This is the condenser, the original type of which is known as the Leyden jar, which was a glass jar with a coating of tin-foil pasted carefully inside and out," etc.

In Gordon's *Electricity and Magnetism*, vol. 1, page 67, it is stated, "A Leyden jar is sometimes called a condenser because it was formerly supposed that the strong electrical effects observed were due to the condensation of an electrical fluid or fluids."

The term condenser as applied to the Leyden jar has been more frequently used within the last twenty years than, so far as I have been able to discover, at the time when its effects were supposed to be due to the condensation of an electrical fluid or fluids.



FIG. 5

The changed meaning of the term "condenser" has been thus briefly traced as another instance of the gradual manner in which a name or term applied to an instrument having originally a specific function may be transferred to an instrument not necessarily having that function, and the original function be practically lost sight of. In this particular case the original object or use of the electrical condenser is already omitted from some modern text books of electricity.

There is but little doubt that the term condenser will now adhere to the instrument at present bearing that title. There was at one time a disposition to designate it *accumulator*, but that word has since been applied almost exclusively to storage batteries.

The meagre descriptions of the "induction plates" of Sturgeon and Fizeau, already quoted, show a very crude form of condenser. These were vastly improved upon by Mr. C. F. Varley, yet we find him saying in his British patent No. 206, 1860, "Induction plates being bulky and expensive I use in most instances plates or wires of platina. Two of these plates are placed in each cell containing sulphuric acid and water, a number of these cells are connected together like a voltaic battery, consisting of plates of the same metal, instead of dissimilar metals; when so many of these are used that the battery cannot decompose the water they become induction plates of great inductive capacity, and a few inches of surface give as great inductive capacity as many miles of submarine cable."

Again, in patent No. 3,453, 1862, Mr. Varley states, "To save expense the resistance of this test circuit may be increased say 10-fold when the induction plates are reduced in size in like proportion, etc. * * Having found difficulty in constructing large induction plates with certainty I have been led to try, amongst many other insulators, paraffine, and I find that paper saturated with it forms an excellent insulator for this purpose."

Even in 1867, it would appear from a report of a committee of the British Association on the determination of a unit of capacity (B. A. proceedings for that year) that not much advance had been made in the construction of condensers. This report is of so much interest as detailing the state of the art as regards condensers at that time that it is given here almost in full:

"The determination of a unit of capacity has occupied the sub-committee during the past two years. Very considerable difficulties have been encountered and are not yet wholly overcome. The methods by which electro-static and electro-magnetic units can be determined are sufficiently simple in theory, but they assume that the condensers or Leyden jars compared have a definite capacity, and that with a given E. M. F. between the surfaces a definite quantity of electricity will be contained in the jar or condenser. This is very far from true with condensers of the ordinary form. Whether the dielectric separating the plates be glass, mica, gutta-percha, paraffine, ebonite, or any other known solid insulator, an absorption of electricity takes place. The longer the plates are charged the more electricity the condenser will contain, and conversely it will continue to discharge itself for a long period after the inner and outer armatures have been joined. With some of the best insulation the effect will continue for hours if not days. Condensers made with these solid dielectrics have therefore no definite measurable capacities. This capacity will differ according to the time during which they have been charged, and it may vary also with extreme variation in the electro-motive forces employed, although this latter change has not been detected when the differences of potential are such as between one Daniell cell and two hundred. Only gaseous dielectrics appear free from this embarrassing peculiarity, called absorption, polarization or residual charge. One object of the sub-committee has been to construct condensers in which air alone separates the induction plates. But new difficulties arose in carrying this idea into practice. Some support for each plate was necessary, and then leakage occurred from one to another over the surface of any small insulating supports employed such as glass balls or vulcanite stems. It was possible by great care in drying the air occasionally to make condensers of this type, which would remain insulated a short time or even for some months; but long experience has shown that an artificially dried atmosphere cannot be conveniently maintained in any instrument which is not hermetically sealed. Dust also accumulated between the plates of the trial condensers; this altered their capacity and increased the leakage from plate to plate. Even a single filament of dust by springing up and down between the two electrified surfaces would occasionally bring them to the same potential with great rapidity, neutralizing the charge. Moreover, a condenser of this type could not be taken to pieces and cleaned, for no mechanical contrivance would insure that the parts after cleaning would return to their original position so exactly as to constitute a condenser of the same capacity before and after cleaning. It is therefore clear that an air condenser can only be constructed in a hermetically sealed can containing an artificially dried atmosphere; and even with those conditions, excluding the graduated and adjustable condensers which were first tried, the air condenser is not easily constructed. For large capacities which are alone useful in connection with practical telegraphy the plates require to be so numerous and large as to make the expense great and the bulk very inconvenient.

(To be Continued.)

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HOW THE BABY PAID THE MORTGAGE.

Yes, sir! the boy there, though but five years old and not knowing a dash from a dot, stands upon the company's payroll as telegraph operator, at fifty dollars per month. "How did it come about?" you ask. Just wait a few moments until my relief comes, and as we walk to the house for supper, I will give you the story."

The speaker was an old school friend of mine, whom I had hunted up after a long absence from my native city, and found busily employed in the train despatcher's office of the ——— Railroad, as chief operator. Upon his telegraph instruments rested the cabinet photograph of a little boy, and my remarking upon the smart appearance of the little fellow elicited the above reply.

"Not much time for conversation here," continued my friend, as if in apology for not commencing at once, "with ordinary messages, train reports, and the all-important orders, we are kept pretty busy; the hours are short though, and by the way, here comes my relief now."

Here followed an introduction to the relief, a pleasant looking young man of twenty-one or two, whose duty it was to remain all night, at the post my friend was just vacating, to whom was given some general information as to how the trains were running upon his division, and what orders had been issued; and then, with a pleasant good-night we were off.

"Now, for the story!" continued my friend as we emerged upon the street, and turned our steps towards his home.

"One year ago I was discharged from the very position I now hold, for having, as was charged, caused the wreck of two freight trains at C—, a small station upon our line about thirty miles east of here.

"You must know that all regular trains upon our road are run upon schedule time, or, in other words, upon that laid down in the time-tables of the company. But extras of any sort, or regular trains when off their schedule time, must be helped along by telegraphic orders, issued by, or in the name of, the train dispatcher. This, upon a single track road, carrying so much traffic as ours, is constantly occurring.

"As I might weary you by details, if I entered into too minute an explanation of how this is done, I will give you the system in as few words as possible.

"For an example: we will say the regular crossing-point, for No. 34 going west, and No. 35 going east is B—. Now all trains are reported by telegraph from each station as they pass. We are on the lookout for these reports, and before us is the *train sheet* upon which must be noted the time of departure of each train from any station. Thus we can tell, at a glance, the position of every train upon the road. We will say these reports show No. 35 going east, to be thirty minutes late. Since No. 34 would be obliged to wait at the usual crossing point for the laggard, we give it an order to proceed to C—, ten miles beyond, and cross No. 35 there, thus keeping it on time while causing no further delay to the delinquent. Of course it is necessary to notify both trains of the change in crossing points, and right here is where my trouble occurred.

"One day sitting at my instruments, busily employed as you saw me a few moments ago, I discovered that freight No. 102 was losing time. Soon it was thirty minutes behind, and wishing to help along freight No. 65, which usually crossed at B—, I concluded to push it along to C—for a crossing. Accordingly I called up D—, the next station beyond the usual crossing point, and upon receiving the response went ahead with this order:

"To Conductor and Engineer No. 65:

"You will proceed to C—and cross No. 102 there.

(Signed) HOBBS, Dispatcher.

"The next move was to protect them in thus passing their usual crossing point, by giving the same order to No. 102 at A—.

"Calling up A—, I said in the cipher used on such occasions: '14 for No. 102,' which means, 'Put out blue signal to hold No. 102.' This blue signal, a flag by day and a lantern by night, conspicuously displayed in front of a station, means telegraphic orders, and by this signal, no train is allowed to pass. Instantly came back the reply from the operator at A— '15 for 102.'

"Now every operator's duty is to put out the signal before replying with 15, which means: 'blue signal is displayed and will hold the train.' You see the use of the cipher figures is a great saving of time and space. The most imperative orders are issued, and the utmost care taken in moving trains by telegraph; and to answer with 15 before the signal is displayed, is contrary to all rule, as in doing so there is a chance that some duty will come up in the performance of which the signal will be neglected until too late.

"Well! upon receiving the assurance that the flag was out at A—, I gave the order corresponding to the one above, but addressed to No. 102. Thus I had all arranged according to rule, for a crossing at C—. Soon came the answer from No. 65:

"To Hobbs, Dispatcher;

We understand we are to proceed to C—, and cross No. 102 there.

(Signed)

BRUCE, Conductor, } No. 65.
COSTAR, Engineer, }

"To this I promptly gave O. K. and they were dispatched. As No. 102 had not arrived at A—, and no reply could be received from them until conductor and engineer had signed the order, which, of course, the blue flag would notify them was there, I turned my attention to other duties, and thought no more of that crossing, until some time after, it occurred to me that No. 102 was slow about replying.

"So calling the operator at A—, I asked: "Has No. 102 arrived?"

"Arrived and gone," was the reply.

"Gone without receiving the orders I gave you? impossible! Did you not display the blue flag?"

"No!" was the reply. "Having received no orders to do so I did not."

"The operator at A—was comparatively a new man, a nephew of an influential member of our Board of Directors, through whom he had obtained his position, and through whose influence I was soon to lose mine. His deliberate falsehood astounded me, as well it might, for allowing the train to proceed without the orders meant for them to run by C—and endeavor to reach their usual stopping place at B—, as soon as possible, to save delay to 65, which was rushing along expecting to reach them at C—. The result must be a collision.

"The thought drove me nearly frantic. Further questioning only resulted in further denial from the operator of having received any orders to hold the train, which he accused me of having failed to send.

"With fast-beating heart, and a terrible faintness upon me I dropped my head upon the instruments and prayed for the poor fellows upon the trains. How many of them would survive the wreck, which now it was impossible to prevent, for between the two trains rushing towards each other so swiftly, no operator was on duty with busily clicking instruments to warn them of their fate.

"Noticing my actions the dispatcher eagerly inquired the trouble. I could not reply in words, but noticing my instrument calling, I grasped a pen, and with trembling fingers copied this message, which relieved my mind of the heaviest load I have ever known. It was addressed to the superintendent from the conductor of No. 65 and ran thus:

"Freights Nos. 65 and 102 met in head collision one mile east of C—, speed of fifteen miles per hour. Crews of both trains escaped uninjured. Fifteen cars derailed, five of them wrecked completely, badly blocking the main line. Will report in person by first train."

"My greatest fear had been that loss of life would result. Now that was past. I was ready to explain.

(To Be Continued.)

ST. LOUIS NOTES.—Following is a list of the operators employed on the day and split trick force, Western Union: J. H. Topliff, chief operator; A. R. Pippitt, 1st assistant chief; E. W. Mayfield, Wm. N. Manley and D. B. Grandy, chiefs 1st, 2d and 3d divisions respectively; C. L. Gross, way chief; C. W. Crary, chief city department; C. V. Lafford, force chief; A. E. Van Tyne, wire chief; M. D. Crain, assistant wire chief; E. L. Parmelee, assistant first division; operators 7:30 A. M.; Messrs. Putnam, Cutliff and Gallagher. 7:45 A. M.: J. B. Morgan and DeWitt. 8 A. M.; Mesdames, Catlin, Pratt, Garrity, Ehlert and Wells. Misses Crotty, O'Fallon, Connor, Somers, Geraghty, Krone, Meyer, McSwiney, Fannie Bernstein, Hall, Shield, Walther, Carroll, Hunt, Hood, Bettie Bernstein, Higgins, Wise, Wheeler, Croake, Langenbach, Ryan, Kulling, Dunn, Robertson, Price, Pauli Straat and Kleekamp; Messrs. Otto Schreiner, Murray, McClure, McLean, Rooke, Swan, McIlvaine, Fred Schreiner, Harris, Van Landingham, Irvine W. C. Wright, Cotton, Troll, Fully, Garrene, Cooper, Danforth Nasker, Murphy, Goodwin, O'Laughlin and Remington 9 A. M.; Miss Jessie Sinclair and Chas. McCrossen. Split trick: E. J. Wright, Payne, Parkinson, Roberts, Roche, Deverill, Frank Spencer, McNeill, Dent, J. R. Ernesthauser, Miller, Ashby, Irvine, Jenkins, Turner, Drudy, Howe and G. L. Morgan. Mr. Arthur Mitchell, of the night force, who was twenty-five years old February 5th, received a present upon that day which he is very proud of—yes, it's a boy. Mr. Krumbling, chief operator at the *Globe Democrat* office was upon the 22d inst, presented with a young patriot, who will be known hereafter, no doubt, as G. Washington Krumbling. Miss Annie Dunn leaves us the first proximo to accept a position with the W. U. Co., at Louisville, Ky. Your issue containing pictures of Chiefs Topliff and Spencer were eagerly sought for and much praise bestowed upon the pictures, which were very good likenesses.

ST. LOUIS, IRON MOUNTAIN AND SOUTHERN RAILWAY COMPANY.—Relay office, Little Rock, Ark, J. C. Browne is manager with the following brilliant operators:—James A. Dillon and W. W. Leeds, W. Randall, T. J. Rice, W. H. Mulcahy, and W. B. Burns, and A. J. Smith, nights. Dispatcher's office: N. S. Halliday, G. P. McAlevy, and Archie Mack are chief dispatchers; H. C. Simms, C. H. Baltzell, Koeth, Frank, Ruark, Beauman, Hoskinson, Proudfoot, and Michaels dispatchers, and Joe Thompson, W. F. Kidd, Jonas F. Smythe, C. H. Ebhart, Joe F. Norman and Quincy R. Browne, operators. Archie Mack is at present on the sick list, having been confined to his bed some time. He has the sympathy of the force. February 1st greeted all dispatchers and other employees whose salaries were \$100 or more per month, with a ten per cent cut, and as a result three of their most able dispatchers resigned. On the 23d inst. a dozen or more railroad operators, representing all, or nearly all the railroads in this state, met in this city and took preliminary action in the formation of a division of the O. R. T. to be located here. They will meet again soon when the committees appointed at the first meeting will report, and final arrangements made.

SEABOARD AND ROANOKE R. R. NOTES.—S. G. Dickerson is train dispatcher, ably assisted by V. L. Cherry and W. B. Clements. J. H. Moore is night train dispatcher, all stationed at Portsmouth, Va. Joe B. Dickerson is in Superintendent Myers office. Geo. E. James, W. J. Wright, Jas. A. Cheatham, C. P. Rodwell, C. W. Hart, Geo. S. Perry, Paul Eley, W. H. Dabney, J. D. Abbutt, E. M. Darden, C. C. Lewis, J. R. Stainback, S. H. Harris, J. H. Person and Lee Johnson, operators. R. and T. R. R. R. The following are the operators at the various stations: C. M. Moore, S. M. Holtz, W. E. Clifton, A. J. Parker, and W. E. Winstead.

A NEW WONDER IN TELEGRAPHY.

Mail and Express.

At No. 171 Broadway, the National Printing Telegraph Company exhibit Mr. Samuel V. Essick's telegraphic printer in a most interesting way. They have a direct wire thence to Pittsburg, Pa. Their machine prints the message in column, both in the transmitter and receiver, one at each terminus, and it will drop the message in a thousand different offices simultaneously, if desired. The following facsimile record of a conversation will show the operation :

FROM THE PITTSBURG GAZETTE.
 .PITTSBURG.PA.FEB.XXIII-
 .TO.COL.SHEPARD N.Y.-
 .I.AM.GLAD.TO.MAKE.YOUR.AC-
 .QUAINTANCE.BY.THE.PRINTER-
 .AND.I.WISH.TO.EXPRESS.MY-
 .SATISFACTION.WITH.YOUR-
 .EFFORTS.IN.BEHALF.OF.STAL-
 .WART.REPUBLICANISM.-
 YOURS.WM.ANDERSON.
 TO THE PITTSBURG GAZETTE.
 .NEW.YORK.FEB.XXIII.
 .TO.WM.ANDERSON. . .
 .I.SHAKE.HANDS.WITH.YOU.BY.-
 .MEANS.OF.THE.WONDERFUL.-
 ESSICK.PRINTER. . YOUR.-
 .GAZETTE.NOBLY.HELD.UP.WESTERN.-
 .PENNA.AS.AN.EXAMPLE.OF.THE.-
 .BENEFITS.OF.PROTECTION.AND.-
 .THUS.GREATLY.HELPED.US.TO.CARRY.-
 .THIS.STATE.WE.HAVE.OCCASION.-
 .TO.FELICITATE.EACH.OTHER.-
 .ON.THE.ELECTION.OF.GENL.-
 .HARRISON.AND.THEN.UPON.HIS.-
 .INVITING.INTO.HIS.CABINET.SUCH.-
 .A.NOBLE.MAN.AS.HON.JNO.-
 .WANAMAKER.-
 GOD.BLESS.AMERICA!.-
 MOST.TRUE.YOURS.-
 ELLIOTT.F.SHEPARD. . . .
 DISTANCE NO HINDRANCE TO HEARTINESS.
 .PITTSBURG.PA.FEB.XXIII.
 .TO.COL.E.F.SHEPARD.N.Y.-
 .THANKS.FOR.YOUR.KINDLY.COM-
 .PLIMENTS. . HERE.IS.MY.HAND-
 .IT.IS.A.LONG.SHAKE.OVER-
 .SEVEN.HUNDRED.MILES.BUT.-
 .NONE.THE.LESS.HEARTY.FOR-
 .THE.DISTANCE. .GOOD.BYE-
 YOURS.WM.ANDERSON.
 SPEAKING.
 .NEW.YORK.FEB.XXIII.-
 .WM.ANDERSON. . YOUR.KIND.-
 .WORDS.ARE.SO.DISTINCT.THAT-
 .I.SHOULD.THINK.YOU.PRESENT.-
 .IN.PERSON.HERE.EXCEPT.THAT.I.-
 .KNOW.THAT.YOU.DO.NOTHING.ON.-
 .TICK.HA.HA.GOOD.BY. . .
 EVER.YOURS. . .
 ELLIOTT.F.SHEPARD.-

In reply to Mr. Essick, the following was sent :

.NEW.YORK.FEB.XXIII.-
 TO.S.V.ESSICK. . PITTSBURGH.PA. . .
 YOU.DESERVE.THE.GREATEST.-
 PRAISE.FOR.YOUR.INGENIOUS.-
 TIME.AND.LABOR.SAVING.TELE-

.GRAPHIC.PRINTER.AS.A.BROTHER-
 .LAWYER.I.WISH.YOU.THE.GREATEST.
 .FINANCIAL.SUCCESS.WITH.IT-
 .YOURS.MOST.TRUELY. . .
 ELLIOTT.F.SHEPARD. . .

The time occupied in the transmission of these messages was only about fifteen minutes. A keyboard with the alphabet supersedes the necessity of the operator being a skilled telegrapher. Should he be able to read stenography the short hand notes may be placed before him, and he can send the message without the delay of writing them out in long hand.

This would be a great saving in telegraphing speeches by night or by day, both in time and expense.

Mr. A. McKinley, brother of the expected speaker of the next House of Representatives, is the promoter of the new enterprise.

Among the numerous ways in which the Essick Printer can be successfully utilized is the coupling together of the many newspaper offices with Press headquarters, for the purpose of rushing important items of news, which would otherwise consume much valuable time in their delivery by messengers. This would practically reduce news distributing to the same point in perfection as the distribution of stock quotations. This has been an object long sought after by the newspapers and many of them have gone so far as to lease private wires at enormous expense between their offices and the main telegraph headquarters for no other reason than to save the time in the delivery by messenger boys. Of course substituting this device does away with the expense of maintenance, for it is self-operating and distributes the news simultaneously in all offices on the circuit. It even goes further for it enables the editor to make any inquiries he may desire over the same instrument in reference to corrections, and should errors be discovered, all the offices on the wire receive the benefit of the inquiry.

It is calculated that fully half an hour is consumed from the time an item of news enters press bureaus until it reaches the compositor. This is an unnecessary waste of time and at a period too, when every moment is most valuable to a live newspaper.

By placing an Essick transmitter in an office in New York and an Essick receiver with each of the subscribers of Boston, New York, Philadelphia, Baltimore, and Washington, the stock quotations can, with a single transmission, and simultaneously, be repeated to all the subscribers of those cities.

In fact, for long circuit work the Essick Printer distances all competitors. The above tests show that the line worked successfully for over 700 miles, while ordinary tickers experience much difficulty when over 15 miles of wire are in circuit.

There is no reason why this Printer should not also successfully compete with the telephone. Certainly, for private line uses, there is nothing superior to it on the market to-day.

Tapping of wires could not very well be carried on successfully on a circuit of Printers. This is an important subject, and which concerns the pool rooms that have been systematically robbed for years by the tapping of wires.

There are certainly many fields in the telegraph business, which the Essick Printer can admirably fill.

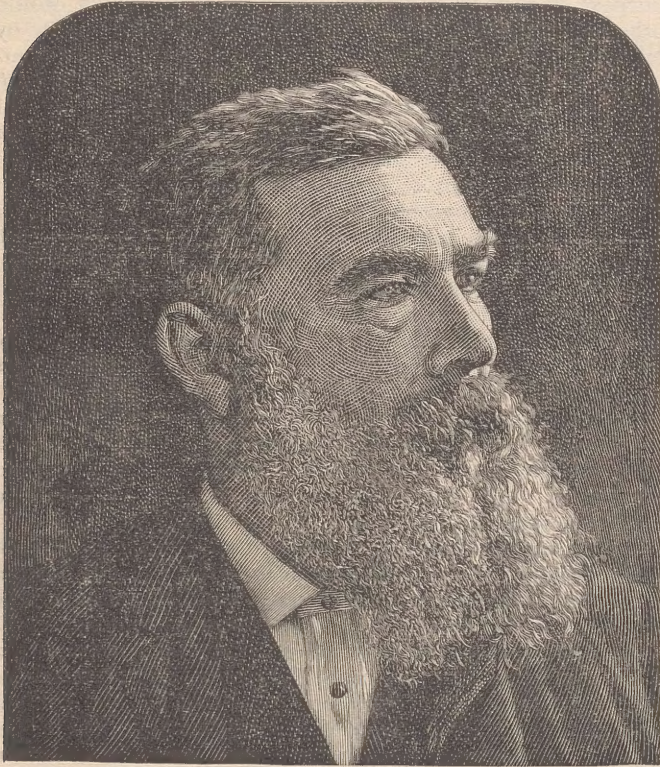
For railroad purposes the Essick Printer is an indispensable improvement as it records in plain roman characters and with absolute certainty, whatever is transmitted.

Mr. George A. Hamilton, electrician of the W. U. Tel. Co., New York, has resigned to enter the service of the Western Electric Company, in their New York office. The electrical department of the Western Union loses a valuable man.

BIOGRAPHICAL SKETCHES.

A. M. MACKAY, SUPERINTENDENT OF THE ANGLO-AMERICAN,
HEART'S CONTENT, N. F.

The headquarters of the Anglo American Telegraph Company in America, are at St. Johns, N. F. There are fifty-four offices on the island, eighteen of which are Colonial. Lines of considerable length are maintained at Government expense, which are especially valuable to the fisheries. All of these are under the direction of Hon. A. M. Mackay, the oldest telegrapher in the Dominion, now also Colonial Minister of Public Works, and who stands very high in public esteem. These lines cover seven hundred miles, much exposed to periodical sleet and storms, but strongly built and diligently patrolled. The wires connected with the cable traffic between Heart's Content and Placentia pass over 106 miles of land only, and are duplicated by two cable routes *via* the isthmus. Over these submarine lines between Sydney, C. B., and Heart's Content, a high rate of speed is maintained, and the capacity of cable transmission has been doubled by a shunt in the relay, the invention of J. B. Stearnes.



A. M. MACKAY.

Mr. Mackay has been in telegraphic business for 38 years and was the first in the Dominion to read by sound. He has had charge of the Anglo-American lines since January, 1857, and is known as a gentleman of energy and ability.

ALLENTOWN, PA. NOTES.—At the Western Union office we find E. S. Derr, as manager, assisted by Edw. B. Rohn. At the Postal office, C. H. Rockel, is manager. At the depot of the C. R. R. Co. of N. J., B. A. Metzger; North End, Rittersville Siding, W. W. Hoffman, days; Robt. H. Fenstermaker, nights; South End, W. E. Roberts, days; E. J. Gartland, nights; L. V. depot, Henry M. Jacoby; East Penn. Junction, Ed Haines, days and Harvey Sell, nights for the L. V.; for the P. and R., Wm. Conrad, days and Jno. Wentzel, nights. Brokers wires are run by Daniel E. Lerch for Grubb and Medlar, and Edw. Sherns for A. S. Grim. The attention of the readers of the AGE is called to the existence of a "Ham Factory" in this city, which is run in con-

nection with the "Allentown Business College." O. C. Dorney, assistant principal of the College and a "plug operator" who is hardly able to run an ordinary office, is teaching the "Hams."

ST. PAUL NOTES.—The Western Union office here is presided over by Mr. N. McIntire, C. H. Kelly having gone to New Mexico for his health. Mr. McIntire is ably assisted by John Knowd, with D. L. Wilson at the switchboard. Business is picking up and the outlook is favorable for a "large" summer. J. E. Bell is manager of "X" office, succeeding G. Taylor, who now manages the Board of Trade office in Minneapolis. E. E. Taylor works the pony wire from "X" office. F. X. Duenwald is at the *Globe* office and E. W. Smith at the *Pioneer Press* office. Arthur Copps is with us again having changed places with Mr. Bentley, the latter going to Huron, Dak. R. Taylor from Minneapolis is now with us, on days. Smoking is now prohibited on the night force. Jas. Coleman and John Dempsey are very popular with the night force. Robert Gray is working nights awaiting the opening of a pool room. Fred Holden of the United Press has resigned to enter the service of the Associated Press, Chicago. A. W. Billings has been transferred from the night to the day force, and H. A. Wilson formerly of Nashville, Tenn., fills the vacancy at night. The *Globe* highly complimented Messrs. Garges and Pressell on the excellent manner in which they received the inauguration report.

BOSTON NOTES.—Mr. Harry Wardwell, of 31 State street, was tendered a complimentary benefit at the Dudley Street Opera House, March 4th. The attraction was Wallack's beautiful play of "Rosedale," Mr. Wardwell appearing in the leading part, with great success. Mr. J. H. Irwin and Mr. Chris. Shea also took part. The house was packed from pit to gallery, and the beneficiary was brought before the curtain repeatedly in response to enthusiastic calls. Mr. H. F. Wood, of the Third New York quad., has accepted a position with the United Press, at Providence, Mr. J. L. McLaughlin relieving him. Mr. H. F. Evans has been assigned to the regular night force, Theo. Johnson relieving him on the split trick. T. R. Finan is filling the vacancy on the cable quads and repeaters, caused by Mr. Van Allen's appointment to the managership of the Fall River office. Mr. E. C. Burke, of the waiting-list, has been assigned to Mr. Finan's place on the Portland quad. F. M. Gough has been assigned regularly to the Washington duplex. W. A. Kenna has resigned his position with a broker in Lancaster, N. H., and is back on the night force. Mr. J. H. Driscoll, of the all-night force, has been sojourning in Gloucester. Mr. E. Marsh has entirely recovered from his recent severe illness, and is once more at work on the waiting list. Mr. Damien, of the Worcester wire, has gone to White River Jct., Vt. Mr. J. E. Griffith, of the Associated Press, who was recently confined to his home with a severe attack of pneumonia, has fully recovered and is again at his post. Mr. Eugene L. Parker, an operator formerly of 109, is to appear at Union Hall, in this city, March 10th, in the play entitled "The Writing on the Wall." Mr. Parker is said to be an actor of much promise. He is very popular here and we wish him every success. The Iceman of the Guard, for the Yeoman of the Guard, is the latest from the night force. Arrangements are being made for a banquet to be given Mr. Eugene O'Connor, ex-President of the Telegrapher's Mutual Aid and Literary Association. A copy of resolutions engrossed and framed, are to be presented to Mr. O'Connor on the occasion.

It is said that there is an operator in the employ of the Western Union Company in Chicago, who is buying disputed claims against operators in the service of that company then garnisheeing their salaries. An operator garnisheered is immediately dismissed whether the claims are just or not.

WESTERN UNION NOTES.—Now that Winter is about over, protection from draughts is to be afforded the operators by the erection of storm windows. Miss Mamie Flynn, a young lady of a most amiable and loving disposition, was married on February 27th to Mr. Heldman who for several months past has worked the Pittsburg quad. Both are deservedly popular. To the happy couple are extended the congratulations of all. Mr. A. S. Downer while on his way home several evenings ago, caught the heel of his shoe in an iron grating and being thrown forward broke a number of smaller bones in his foot. He is still confined to his room.

It has so long been the custom for Chief Tobin to assume charge promptly at 1 o'clock every morning, that his failure to do so a few nights since elicited a surprising amount of comment and conjecture as to the cause of his absence. This was accounted for not long afterward when he put in an appearance and explained that he had tarried in the counting room to converse with a friend he had not seen in fifteen years. Then the boys breathed a sigh of relief and resumed their work. The following bulletins from Washington addressed to a well-known club uptown were received here the day before the inauguration of President Harrison: "Everybody's full. O'Neil is in the hands of the policeman." Later—"the policeman is drunk and has lost O'Neil. O'Neil is looking for him." The many friends of Harry Heritage will regret to learn that the illness which confines him to his room is of a character so severe that an effort has already been made to secure for him a position in the sunny South, where it is to be hoped a brief sojourn may give him a new lease of life. His wife is at present filling in his time. Frank Elliott has exchanged his night trick with Mr. Frothingham, late of the day force. Holdston for Holliston is not bad, nor is 1376 Rince for 137 Prince street so very atrocious; but what must have been the thoughts entertained by the young man who received from a young lady a day or so ago a message like this: "I am popping to 8 with you," when in truth it should have read "I am hoping to be with you." The diagram of the operating room on the margin of which are the names of those who in 1875 were transferred from the old office 145 Broadway, and which has ever since adorned the wall back of the manager's desk, has been removed to a similar location behind the assistant manager's desk to make room for the mammoth photograph of the manager and chiefs. The picture attracts considerable attention and is looked upon as one of the pleasing features of the office. Readers will kindly observe this is no joke. Edward Delaney the "brevity man" accompanied by a party of visitors, whom he had previously initiated into the mysteries of Gotham, paid the operating room a visit at the bewitching hour of 1.30 o'clock the other morning, and carefully explained to them about all they cared to know together with a great many things they didn't ask about and don't understand yet. After introducing his friends to Thomas Green, Les Bradley and others equally well-known telegraphers, he approached the switch where just at that moment Wire Chief Paul Sheehan was engaged in disconnecting a through wire. "What" said one of the party, "do you call that little thing this gentleman just removed?" "Oh! that" said the melancholy brevity man, subduing to a mere glide the razzle dazzle smile that was attempting to waltz across his features, "that's a plug; its what they make operators with." "Billy" Cook who years ago worked the first Chicago nights with E. F. Howell, the distinguished Western Wire Chief as a partner, and who has since been identified with every opposition company entering the field, has been placed on the waiting list from which it is to be hoped he will soon be transferred to a regular position. The new loop switch, mention of which has previously been made, is completed with the exception of the running of wires to the desks in the Southern division, and this will be done as soon as the cables are in readiness. From two loops in 1877, the number has grown to 402. It is not only

an ornament to the office but one of its most useful acquisitions. Under the personal supervision of General Wire Chief Fred W. Baldwin, assisted by Mechanical Engineer Morris, Messrs Larissey, Barrette and Woerzel, order has been evolved from a state of chaos. In lettering and numbering the cords connected therewith our esteemed friend, W. A. Van Orden, has of course made his usefulness apparent. In this as in everything he does, he has performed his work with such rare skill, as to call forth words of commendation from all who have witnessed it. Mr. Feubler for 18 years past manager of the Hoboken office for this company has been assigned to the regular day force. A new section capable of accommodating 38 wires has recently been added to the east end of the City Line switch. Fred J. McCrum of the 1 to 8 A. M. force celebrated his birthday last month by sending to his father the Hon. J. J. McCrum, of Titusville, Penn., the following message: "Masseltof I'm glad I'm alive." Visions of horrible accidents must have flitted through the mind of the distinguished gentleman for without waiting to excuse himself from the breakfast of which he was about to partake, he grabbed his hat, and at a rate of speed surprising to his constituents dashed down the street to the telegraph office, some five or six squares away. That the message had been "bulled" he felt almost positive and the thought that his only son might be seriously if not fatally injured but increased his anxiety. Manager Luce when asked the meaning of the first text word expressed ignorance, so did an eminent physician. Mr McCrum was about to ask for its repetition when Mr. Weill, a leading merchant in the place, who chanced to be writing a dispatch, overheard the conversation and vouchsafed the information that it was equivalent to an operators "73." Whether Mr. McCrum had an appetite for breakfast or not, is not stated. Of one thing however the reader can rest assured, the return home was accomplished with the quiet dignified stride of a Statesman whose mind was occupied in wonder if not joyous pride at his son's familiarity with the Hebrew language. One of the finest letters ever received here was that of Mr. Julius Chambers, Managing Editor of the New York *World*, complimenting Messrs McAllister, Du Souchett and Booth for the work they performed on the Washington circuits cut into the office of that paper on the day of the inauguration of President Harrison. It was a dandy. It is learned the operators at Washington who contributed so largely to the successful accomplishment of the task referred to were, Messrs G. W. Taylor and John Church a recent arrival from Baltimore. We take pleasure in extending to Messrs Morcom and Fisher, of the regular night force, our sincere congratulations on their attainment of the degree of M. D. at the recent examination of their class at the New York College of Physicians and Surgeons. Edwin Dean of the C. N. D., has been elected Financial Secretary of the New York Telegraph Club.

There are from 100 to 500 subscriptions expiring with each issue. Some of our friends, perhaps, wonder why we do not continue the paper and rely upon each party compensating us for so doing. We have tried this plan and we found that very few persons desired us to assume this much responsibility without their consent. By stopping the paper when the time is up avoids disputes and annoyances which would otherwise arise daily. We therefore rely upon our friends notifying us promptly, if they desire their paper continued.

R. W. Martin, familiarly known as "Bob," appeared at 195 Broadway one evening recently for the first time in seven years. The changed condition of the room somewhat surprised him, but the hearty and numerous handshakes extended to him, which took on something of the nature of a reception, indicated that his absence had not lessened the quality of old time friendship. Mr. Sink finally escorted the visitor through the room pointing out the numerous changes and improvements.

THE ROE FUND.—We take great pleasure in saying that money continues to come in for poor John Roe; and we extend our warmest thanks to our generous brothers and sisters, for the noble way in which they are responding to this call. Since our last issue subscriptions have been forwarded from persons named as follows: From Rochester; Miss Mary J. Macaulay, Geo. D. Butler, W. L. Pettigill, and O. C. Morgan, \$2 each; Clyde H. Newman \$5; A. Clennam, Geo. W. Jackson, Geo. W. Holmes, Robert S. Lewis, C. G. Newman, W. A. Blanchard, D. R. Hendricks, Jacob Klein, C. A. Wykhouse, J. C. Bryan, G. W. Thrall, J. C. Turner, C. S. McGraw and J. Drexelius, \$1 each; Geo. S. Crittenden, E. J. M., Louis Wiley, F. S. Runyan, H. A. Davis, H. Leonard, A. E. Whitcomb, A. M. Layton, Frank W. Foote, S. A. Sizenstatter, James K. Parsons, G. D. Butler, Jr., E. G. Kirk and F. T. Bynie 50 cents each; C. A. W., Nellie Stewart, M. Hyatt, Mrs. J. R. Locke, E. L. Jenner, J. E. Dunn, J. E. Stevens, J. M. Lombard, M. D. Campbell, J. W. Taiflie and A. Drew 25 cents each; cash \$2.25; total \$39, previously acknowledged \$243.40; total to date \$282.40.

N. Y. CITY POSTAL NOTES.—Mr. S. E. Ostrom, who has for some time past so ably managed the Broker and Metal District, with headquarters at 51 William street, has had recently placed under his management the 88 Gold street and 5 Beekman street offices also. We are assured that under his able supervision the company's interests will be as well looked after in the future as in the past. Mr. J. Knealy has been transferred from 25 Broad street, to 51 William street. Miss K. Schoulbred has been added to the Metal Exchange force. Miss L. Ford, late with the W. U., at 195 Broadway, and Miss F. A. Rice have been added to the 88 Gold street force.

TRANSFERS.—R. J. Curran, Sprague, Wash., to Huntington, Ore.; M. L. Wescoe, Newton, N. J., to South Bethlehem, Pa., as manager, for the W. U.; C. D. Lee, East Saginaw, Mich., to Sidney, Ohio; Dr. Shoemaker, Virginia, Nev., to Philadelphia, Pa.; C. E. Courtwright, San Francisco, to Virginia City, Nev.; C. A. Willis, Los Angeles, to Beaumont, Cala.; W. H. Greig, Blyth, to Toronto, Ont.; N. L. Bleakney, Newton Hamilton, to Newport, Pa.; C. E. Gooding, Detroit, Mich., to Winnepeg, Manitoba.

The numerous friends of Mr. Ed. J. Murphy, of this city, will rejoice to learn that he has been appointed manager of the Postal office at Newark, N. J. One of the first achievements of the new office was the overtaking of a Newark citizen on a Canadian Pacific train in British Columbia, and returning the answer inside of two hours.

The press generally gives credit to the telegraph companies and the press associations for the excellent telegraph service rendered during the inaugural rush. The service was not only prompt, but the quality was at "high water" mark. The telegraph is beginning to be appreciated at last.

Mr. T. J. Bates, a well-known and popular member of the craft, of Boise City, Idaho, has entered other business at Huntington, Oregon. We wish Mr. Bates every success.

The Newark, N. J., railroad and commercial operators are negotiating with M. J. Dixon, looking to the production in that city of his telegraph plays at an early date.

The operators at Sioux City, Ia. will soon produce "Above The Clouds" and "Dots and Dashes" for charitable purposes. These are the plays lately produced by the fraternity in New York.

At Detroit, Mich., on Feb. 28, the O. R. T. gave a ball which was attended by the railroad and commercial operators generally, and an enjoyable time was had.

J. T. Connors of the Western Union force, Portland, Me., has resigned and the vacancy is filled by Mr. J. Dion, late of Falmouth, Me.

Mr. F. E. Ames of 195 office who has been very ill for the past two months, is much better although still confined to his home at Dobbs Ferry.

Mr. G. F. Jones, chief operator for the Postal at the Stock Exchange, has resigned to accept a more lucrative position in the West.

T. F. Meyer, C. E. Orr and C. M. Jones, of the 195 force, have accepted positions with the Public Grain and Stock Ex.

Mr. John Costelloe has been transferred to the management of the 49 Broadway Postal office *vice* Radigan, resigned.

W. C. Pearse, of The United Press, Philadelphia, Pa., was in town this week.

POSTAL NOTES.—The following appointments have been made: Charles Shirley, acting manager days; J. W. Roloson, acting night manager; C. P. Flood, chief of South and West, and C. Richardson, chief of city department. J. W. Roloson with several operators went to Washington to help out during the inauguration rush and rendered excellent service. Those who accompanied him were, A. F. Slowey, J. Masterson and F. J. Higgins. W. H. Young is on leave of absence for a month. G. B. Ashley has been added to the waiting list. Miss Belle Rappaport has been transferred to this office, and Miss Cortissoz has resigned. The *Press* complimented the New York Postal management on the excellent service rendered March 4th.

BORN.—To Mr. and Mrs. F. H. Jacobs, at Peoria, Ill., February 17th, a son.

BORN.—In Chelsea, Mass., on March 4, 1889, to Mr. and Mrs. Frank B. Gray, a daughter.

DIED.—Newton D. Root died at Tacoma, Wash., Feb. 14.

DIED.—J. A. Hard died in Denver, Col., Feb. 18, of gastric fever.

DIED.—At Los Angeles, Cal., Feb. 22, Wm. J. Quinn, formerly of Detroit, Mich., where he was well and favorably known. Mr. Quinn was a brilliant press operator. In 1885 he journeyed to California in search of health, but consumption soon claimed him. The Detroit operators sent a loving message to their dead comrade in the shape of a floral tribute.

DIED.—Mr. Howard E. Jackson, late of the Western Union office, Portland, Me., died of quick consumption at his home in Salmon Falls, N. H., February 25th. He was only 16 years of age, but had proved himself an expert telegrapher. A beautiful floral pillow, with the initials "J. C." in the centre, and a large bouquet, were contributed by the telegraphers of Portland and other places. Messrs. Stevens, Starbird and Bragg, of the Portland office, attended the funeral.

J. S. TOWNSEND,

1554 Wabash Avenue, Chicago, Ills.

Will ship you any article in the way of Diamonds, Watches, Jewelry, Emblems, etc., etc. C. O. D. approval and guarantees all goods as first-class, and prices spot cash wholesale rates. We sell immense quantities of goods and can afford to give our customers the benefit of very great inducements. Write for Catalogue and our Co-operative Watch Club System. Manufacturing and Repairing designs furnished free of charge.

References, Editor of this journal and First National Bank, Chicago, Ills.

J. S. TOWNSEND,

1554 Wabash Ave., Chicago, Ills.

THE McANEENY CONCERT.

Chickering Hall, New York, was filled to its utmost capacity on Saturday Evening, March 2nd, the occasion being the Testimonial Concert tendered by the Telegraphers of New York and vicinity to Mr. D. W. McAneeny, the Western Union Company's Eastern Chief, a gentleman who has long been known to lovers of music generally, as the Popular Tenor.

Fifty male voices conducted by Mr. Dudley Buck of national fame, rendered in chorus the opening numbers of the two parts of the programme, the first, "The Spring again Rejoices" by Durrner; the second, "Annie Laurie" harmonized by Buck, and were received with merited and enthusiastic applause. The soloists accompanied by Mr. Albert E. Greenhalgh, followed each with choice selections of best composers, Mrs. Frank J. Johnson, Soprano, Mrs. Jennie C. Tomlinson, Contralto, Mr. Fred. Steeb, Baritone, Mr. Thos. T. Drill, Bass, Mr. Michael Banner, Violinist, and Mr. Alfred E. Pearsall, Humorist. Mr. Pearsall is a telegrapher.

He is an original humorist and in the course of his selections, each of which ended with a moral, he gave some excellent piano and vocal music. He must be heard to be appreciated. Mr. McAneeny sang the tenor solos, "The Garonne" by Stephen Adams, and "Tis better not to know," by Frederick Clay. The walls of Chickering Hall never echoed sweeter tones from truer tenor voice, nor did audience ever show more approval or affection for an artist than was given in the applause to Mr. McAneeny; but the end of the programme with additional by many encores, was at last reached. The concert was over, long to be remembered as the most successful and enjoyable ever given in New York. When will it be repeated?

WESTERN UNION TELEGRAPH COMPANY,
GENERAL OPERATING DEPARTMENT,
NEW YORK, March 4th, 1889.

D. W. McANEENY, Esq.,

Dear Sir—Your telegraphic friends on the occasion of the Testimonial Concert to you on Saturday evening last, opened the doors of Chickering Hall to "Standing-room only," and found that your musical friends, who were not to be outdone, had filled the stage.

Never before was there such a concert. It was artistically grand, and never before, but once, when in June, 1871, we met in the Academy of Music to receive the farewell message of Professor Morse, was there such a gathering of telegraphers.

Memorable as was the Morse celebration, the McAneeny concert will be none the less so, and sharing in the pleasure of those who tendered it to you, I am given the additional pleasure of inclosing you check herewith, to your order, for the amount of the net proceeds—six hundred and seventy-seven dollars and twenty-five cents (\$677.25).

Sincerely and fraternally yours,
WM. J. DEALY.

NEW YORK, March 5th, 1889.

WM. J. DEALY, Esq.,

Dear Sir—Your letter enclosing check to my order for six hundred and seventy-seven dollars and twenty five cents (\$677.25), as net proceeds of Complimentary Concert, March 2d, received.

I scarcely know what to say in return for this most substantial token of esteem from my friends, both in and out of the telegraphic profession. You really must take the will for the deed. I cannot express myself in words, but that I am thankful to *all* goes without saying.

To you who projected and assumed the burden of making it what it proved to be, a thorough success, I simply say I can never repay you.

To those good friends who aided you in the good work, and my comrades, one and all, I extend the right hand of fellowship for their interest in making the gathering second

to none, in numbers, appreciation and splendid appearance

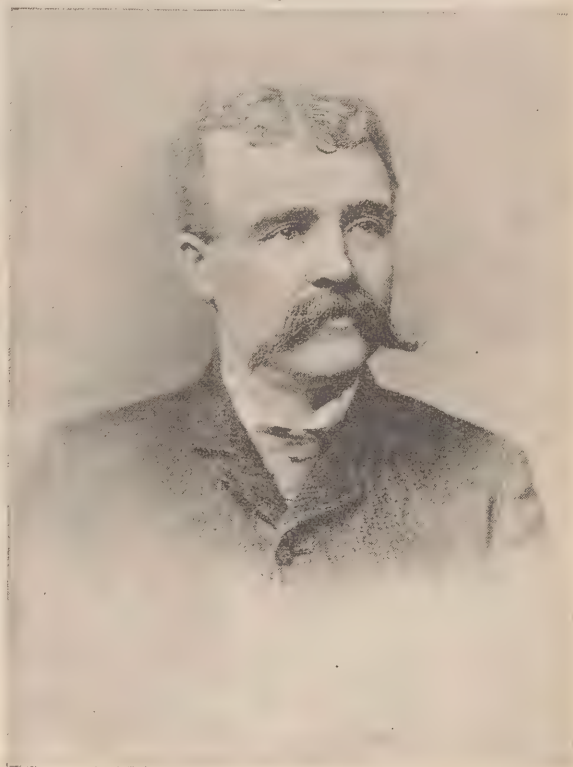
Last, but by no means least, to those ladies and gentlemen who generously gave their services toward making the musical portion so complete. I hope that the time will soon come when I can repay them, partially, at least, by "filling a gap" in a programme for their own benefit.

With heart overflowing with gratitude to one and all, I subscribe myself,

Yours sincerely,

D. W. McANEENY.

David W. McAneeny was born in Toronto, Canada, December 29th, 1846. His parents removed in the following spring to Rochester, N. Y., whence they again removed in 1855 to Utica. Here, at the school exhibition, soon after he entered the Assumption Academy, his phenomenal soprano voice first attracted attention, and for five years he was almost constantly in demand for concerts, church festivals, etc. The boy-singer became known by reputation throughout the western part of the State, and the newspaper



DAVID W. McANEENY.

notices of the time predicted for him future fame. He left the Academy in 1861, and entered the office of the New York, Albany and Buffalo Telegraph Company to learn telegraphy; making rapid progress, he soon became an operator and was sent to several of the smaller offices in the State, some of which he opened. Later he was transferred to Buffalo, but remained there only a few months. We next find him with the American Company, in New York, and for the closing year of the war with the U.S.M.T. at the War Department, in Washington. Returning to New York, he re-entered the service of the American Company, which was soon after consolidated with the Western Union. He left the latter Company's service in 1869 to go with the Atlantic and Pacific as its first manager at Utica and Syracuse, both of which offices he opened. He remained with the A. & P. Co. about two years, then returned to New York, and has since been with the Western Union, where he presides at the Eastern Switch.

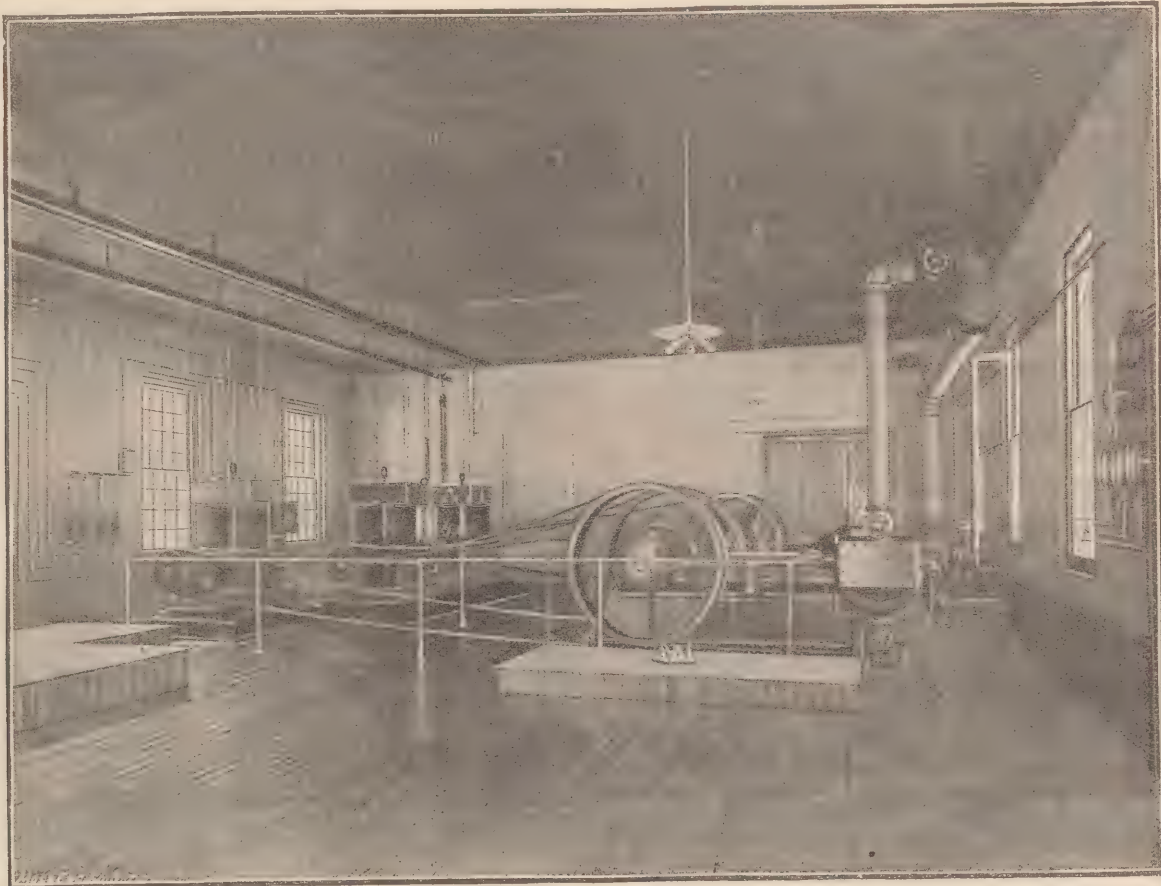
Before attempting church singing in New York, Mr. McAneeny studied for several years under Professor Marco

Duschnitz, who numbered among his pupils many concert and opera singers. Some idea may be formed of Mr. McAneeny's musical abilities by the fact that he has not been out of a church-choir engagement for fifteen years, and that in all that time he has not missed one Sunday from the choir. His engagements have been in churches of various denominations, in New York, Jersey City and Brooklyn. He was the tenor of St. Peter's, in Jersey City, for five years, which was considered at the time to have the finest quartette of any church in the three cities. He sang also for some years at Dr. Ormiston's Church, 29th street and Fifth avenue, New York. He is now a member of the choir of the Church of the Nativity, in Brooklyn.

Ry. of which we give an interior view in the opposite engraving. This power station, supplied power for 20 cars, which are in operation in Scranton, using the Sprague overhead system of wiring.

The dynamos, which are of the Edison type, are of 80,000 watts capacity each, and wound for a maximum electrical pressure of 500--Volts :- The power station is brilliantly lighted by electric lights from a number of handsome electroliers in groups of incandescent lamps, in fives, each group being controlled by an independent switch at end of the engine room.

Although it may seem incredible, it is stated in regard to this station that it cost less to supply electric power to



SCRANTON POWER STATION.

He has sung in concert in the first-class halls of New York and vicinity, and for ten or twelve years has been known by the public as the popular tenor. He is modest even to reserve, yet is one of the most genial of men; is a member of the Brooklyn Apollo Club, one of the most famous musical organizations in the country. He is also a member of the Telegrapher's Associations, T. M. B. A., G. & S. Life Insurance, Aid Society, Building Association and Magnetic Club, is prominent and active in all, and always cheerfully responds when called upon in their entertainments. Worthy and deserving of the testimonial concert which the fraternity recently gave him, we have much pleasure in congratulating him on his magnificent success, and in presenting to our readers his likeness and this sketch of his life.

SCRANTON POWER STATION.

One of the most electric complete power stations for railway work is that belonging to the Scranton Peoples Electric

the 20—Sprague cars which are in operation in this city, upon a line in which there are many steep grades, than it would to keep one horse. The explanation for this given is that the power station of Scranton is very near to a pile of anthracite screen or culm as it is called, which may be had almost for the carting and hence the item for fuel at this station is practically nil. The Sprague road at Scranton has been in operation now for about two months, and it is said to be giving very great satisfaction to the president and directors of the road, as well as the citizens of Scranton. During the recent winter, there were a number of severe storms in this city, but in spite of this, the cars ran uninterruptedly, carrying large numbers of passengers, without hitch or break-down.

Mr. E. A. Leslie, late general superintendent of the B. & O. Tel. Co., has been appointed general manager of the Manhattan Electric Light Co.

CINCINNATI NOTES.—S. M. Dunlap, for several years night manager of the W. U. Office here has been appointed manager of Columbus, Ohio, office and left to assume charge of that office on February 11th. The best wishes of all the force here go with him. Wm. Fellows, assistant day chief, succeeds Mr. Dunlap as night manager, and is in turn succeeded by J. P. McCabe, electrician. Walter Connolly formerly assistant night manager is Mr. McCabe's successor and A. A. Brown all night chief has been appointed assistant night manager; L. E. Moores takes Mr. Brown's former position. Mr. C. M. McDermott, from Nashville, and Mr. A. W. Smithson, from Greenfield are new arrivals. The recently enacted Ohio law regarding brokers and bucket shops, has not so far been enforced in Cincinnati, and the boys are consequently happy, quite a number deriving no small amount of extra therefrom. There are no changes to report from the Postal. Everybody there seems happy and well contented.

TORONTO, C. P. R., NOTES.—Tuesday, the 5th instant, was the date for the Budget speech of the Dominion Parliament. Every available operator was on duty to perform his share in preventing the least delay in the transmission of the speech. The total number of words sent from the House by the G. N. W. and C. P. R., on that evening, was 137,000, of which the C. P. R. handled 99,000. The G. N. W. was patronized by the *Mail* and the C. P. R. by the *Globe*, *Empire*, and *World* newspapers. Mr. Willison, editor of the *Globe*, sent a private message to the C. P. R. staff at Ottawa, congratulating them on the efficient manner in which they handled the speech for that newspaper. And Mr. Kribs, editor of the *Empire*, took the trouble to write A. W. Barber, our manager, a letter, in which he remarked that he had never before seen such quick and satisfactory service given by a telegraph company, as that of the C. P. R.

CAMPBELLTON, N. B. NOTES.—Very few changes have occurred here of late. The winter staff of the G. N. W. office is as follows: R. McCord, manager; John Vautier and John Walsh, operators. At the I. C. Ry. dispatching office, Moncton and St. Flavie division, we find the following efficient staff: E. Price, chief; H. H. Bray, L. S. Brown, J. C. Moore and J. Ashe, dispatchers; C. Russ, J. Davidson and J. Decker, operators, also W. E. Williams, (formerly operator) private secretary to Superintendent J. E. Price. The agents and night operators on the above road, between Campbellton and Moncton, N. B., are as follows; G. H. Allen, J. G. Edgar, J. W. Lutes, W. B. Dawson, R. M. Currie, A. R. Collicutt, W. E. Humphrey, R. A. McMillan, C. P. Brown, C. T. Baisley, F. A. Brown, W. T. Peters, E. P. Stiles, Wm. King, W. R. Payne, T. F. Quilty, W. R. Welsh, J. McMinn, P. A. Morrison, J. A. Hackett, Y. A. King, J. O. Quilty, J. Kerr, M. H. Sharpe, J. S. Fleming, M. Cowie, M. V. Price, A. J. Morrison, R. Z. Walker, H. D. Atkinson, B. J. Keating, H. A. Quilty, F. Richard, D. M. Lutes, W. J. Buckley, J. W. Morton, C. A. Atkinson, W. E. Humphrey, H. Buckley, F. S. Sayre, H. England, P. H. Sheehan, G. S. Coates, C. B. Keith, A. E. Killans.

JACKSON TENN., NOTES.—Mr. Kenneth McKenzie, the genial superintendent of telegraph of the Mobile and Ohio road, is an old time telegrapher and well known throughout the country. Mr. H. B. Gates, manager of the W. U. was an operator in Memphis a few years ago. Col. A. F. Faries, who has been on the Panama road since its completion, has accepted a position on the M. and O. Thad. Smith has returned from the West and is now at Corinth. He is more familiarly known as Smith from Ogden. Geo. B. Harris is agent at East Cairo; S. T. Moore, operator at Union City; Ed. H. Magehan is with the N. C. St. L. at the same place. J. A. Gibson who for a number of years fluctuated between St. Louis and Chicago, is in this city, the guest of R. C. Jones. But few celebrities have visited us this winter.

LITTLE ROCK, ARK. Quite a number of changes have taken place here since the AGE last heard from us. T. Alex. Nolley has gone to Pine Bluff for the Western Union. Ward D Webber is rustivating at his home in Ozark, Mo. and is relieved here by Archie Rainey from Kansas City, Lee Townsend is another arrival at the Western Union Office. William F. Neil and Mike Ryan are with the *Gazette*, which paper has recently placed Associated Press wires in its building. A "Native" reporter recently put it thus:—"Blank was shot from ambush by a gun loaded with buck shot in the face." Business continues very good at this point.

GALVESTON NOTES.—The departures are: Chas. Aycock, now at San Antonio; Frank Barr, Thos. Corbett, O. A. Eaton and Messrs. Fairman and Brooks, of Pittsburg. Arrival: Mr. Gooding, of Detroit, Mich. The cable steamer "Faraday" has completed the cable from Galveston to Coatzacoalos, and is now overhauling the old cable to Vera Cruz. The additional cable was rendered necessary by the increasing business of the Mexican Company, and business will be greatly facilitated as soon as both cables are working. The boys all seem glad to get the AGE.

PHILADELPHIA, B. & O. NOTES.—The following are the only operators left at this point; Messrs. Groena, Yhost, R. C. Toft, Clayton, Burns and Miss McNamee. J. B. Stewart, superintendent, has removed his office and is now located at Broad and Fairmount avenues.

WORD COUNTERS FOR TYPE-WRITERS.—Many inquiries have been made of us as to a desirable machine to be used for counting words in receiving on a type-writer. The Barker Word-Counter, which is adapted for all type-writers is the best device we know of. We have these machines for sale and orders for them may be directed to us. The Number 1, price \$6.50, is especially adapted for receiving commercial messages, while the Number 2, price \$10.00, is indispensable on press circuits. The number 1 registers 2500 words and can be reset with little trouble and no loss of time. The Number 2 is never ending and will register 80,000 words without attention. These registers can be attached to any of the three leading type-writers and the manner of attaching the Number 1 or Number 2 is just the same, but in ordering care should be taken to state what make of type-writer the counter is to be used on, as the means of attaching are different. Address all orders to J. B. Taltavall, 5 Dey St., N. Y.

Twenty-five brothers of the O. R. T. met February 19, at New Haven, Conn., Warner building, and partook of a munificent menu. The gathering was composed of members of New Haven division. Several members from the New York division were present, among them being Chief Telegrapher F. C. DeCamp who is train dispatcher at the Grand Central depot. The officers of this division are: Chief telegrapher, J. B. McKiernan, Milford; assistant chief, M. F. Geer, New Haven; junior telegrapher, P. A. Moriarty; senior telegrapher, S. C. Sharp; past chief, S. A. Hale, Bridgeport; secretary and treasurer, A. H. Hayes, New Haven; inside sentinel, C. J. Harney; outside sentinel, L. S. Madden.

T. M. B. A.—The Northern New England agency has been removed to Burlington, Vt. C. F. Grover is agent, vice H. C. Sherman resigned. The increase of membership of this association for January and February, is extremely gratifying. Mr. J. W. Brown, of the Augusta, Ga., agency heads the list of new members with eleven names. No telegrapher should seek life insurance elsewhere until he has first become a member of the T. M. B. A., which is his own association and in the success of which he should feel an interest. It is the oldest association of its kind in the U. S.

THE HEISLER ELECTRIC LIGHT AT VINCENNES, IND.

The illustrations herewith presented shows the Heisler Long Distance Incandescent Electric Light System, as constructed and in operation at Vincennes, Ind., and in other towns and cities throughout the United States. The

Vincennes plant, three months after completion, according to a report made at the time, consisted of two dynamos, 150 lights, 30 candle power each, of the Heisler System, and one 50-horse power Armington & Sims engine. There were about 11 miles No. 6, B. & S. gauge wire in the city circuits, and about three miles in the commercial circuit, wire No. 8, B. & S.

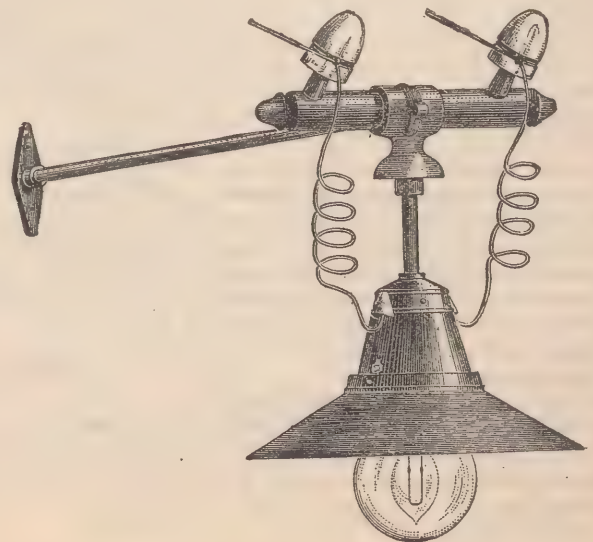


♦ INDICATES INCANDESCENT LAMPS.



A communication from the Superintendent contained the following:

"I have found no defect in the cut-outs (automatic closing of the circuit when a lamp has expired), and do not anticipate any trouble as to open circuits from any cause. Although the machines were sold to us on a guarantee to supply any sufficient current for 150 lights of 30 candle power, we have found our dynamos capable of running 160 30 candle power lights, including the afore-stated amount of wire in the circuit.



"In regard to engine, I consider a 50 horse power engine sufficient to run two 150 light dynamos economically. We are running 125 street lights on the Philadelphia schedule, with about 11 miles of wire and 150 commercial lights until 12 M on one engine. We are using two-thirds slack and one-third nut coal, costing us for fuel \$30 per month on an average.

"The city is paying for 30 candle power lights on the public streets \$24 per year per light, as against gas at \$72 per year for each intersection (two posts). We do better lighting with our 30 candle power at each intersection. Commercial lights, 150 in number, we run not later than 4 P.M. until 12 M. at from \$1 to \$3, according to the number of hours used. The entire plant is run with one man and boy besides myself; total labor, \$150 per month.

"The automatic regulator is a success in every respect. It will adjust for the turning on or off our lights. It is powerful and is no drawback to the current. It is electric and steam power combined, which makes it sensitive and powerful. The brushes and commutator run with almost an invisible spark, which is of a great advantage in the running of a dynamo, and is a matter of great importance in the life of a commutator and brushes and tension of the brushes. The brushes of either or both poles can be handled without the slightest danger, as the current in the brushes is of 45 volts. The journals and the whole electrical and mechanical construction are good and reliable. We are, I am pleased to say, running on a profitable basis. I do and will take pleasure in recommending the Heisler System to any one dealing with the electric light problem."

The Vincennes newspapers were all very enthusiastic over the advent of the Heisler light. One of them, referring to its introduction and use, said: "Still another satisfaction to them (residents of Vincennes) will be the fact that their new electric light, though better in many ways than gas, will not cost the city quite one-third as much as gas distributed over the same extent. Gas to light up these 100 intersections would cost the tax payers at the rate of \$7,200 per annum, for gas alone, while the city would have to pay near about \$4,000 additional to that sum for gas posts and lamps. For all this service, furnishing posts and lamps free to the city, the Vincennes Electric Light & Power Co. receives but \$2,400 per annum."

Referring to the further operation of the Vincennes plant, the following letter from the Vincennes Electric Light & Power Co. written by the Superintendent, H. W. Frund, under the date of January 30, 1888, will be found interesting:

"In justice to your Long Distance Incandescent Electric Light System, we must say that it is excellent for street and commercial lighting. We have been in operation now one year and a half and the light has given satisfaction to every body. The light is steady and brilliant. The machines and the whole system are from a mechanical and electrical standpoint, simply perfection, and has never been out of order for an instant on account of electrical machinery. Our commutators are doing well. The one on the dynamo doing the public street lighting is the same one which was first put in when we began operating, eighteen months ago, and from present appearance will do service for as many months to come. For months previous to putting in the plant here, a select committee visited many electric light plants and examined into all existing methods of lighting. The Heisler System was finally adopted, and think after eighteen months trial its the best incandescent system out. The problem for lighting our city could not have been accomplished by any other method. Our street circuits are a little over 13 miles, the longest about 7 miles, and operate, including commercial circuit, eighteen miles. We use 6 and 7 B. & S. gauge for out door wiring and No. 11 in buildings. To be brief, we are well pleased."

The Heisler Electric Light Co., of St. Louis, Mo., will be glad to reply to any communications addressed to them on the subject.

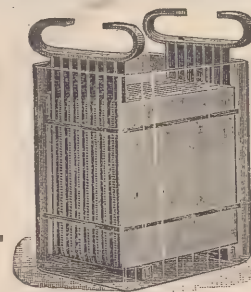
UNDERGROUND WIRES.—Dr. Norvin Green, President of the Western Union Telegraph Company says in speaking of electrical subway matters, with especial reference to the recent order of Mayor Grant that the poles must come down within sixty days along the routes in the city where subways are constructed and ready for use, that the difficulties with which his Company, and presumably other electrical companies, have to contend in making a transfer of the wires are not generally understood. One of Dr. Green's most interesting statements is that the chief obstacle to a successful operation of the subways already built and to be built, particularly in the lower part of the city, is presented by the steam-pipes which have been so numerous placed underground during the past two years. He says that the heat which these generate throughout the adjoining earth strikes the iron pipes of the subway and destroys the insulation. Ordinarily the wires in these subways last ten years," said Dr. Green, "this having been the experience of the Company with the underground wires of the Stock Exchange and the Hudson River at the foot of Liberty street, connecting with the Hudson cables. With the steam-pipes in the neighboring ground, however, it was found necessary to renew them within the year, and their use was finally abandoned in the subway between the Western Union Building and Twenty-third street.

The Western Union Telegraph Company says the extension of the Wheatstone system will not reduce the Morse force to the slightest extent. A few points in the west have dispensed with probably twenty men altogether. These men would have been promptly assigned to other positions had it been any other season of the year. The company claims the Wheatstone is the most expensive system, but limited facilities compels its adoption.

STORED ENERGY. ELECTRICAL ACCUMULATORS.

CENTRAL STATION
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ISOLATED
LIGHTING.



RAILWAY CAR
LIGHTING.

LONG DISTANCE
LIGHTING.

ESPECIALLY ADAPTED TO

STREET CAR PROPULSION

and for operating Central Station and Isolated Plants and during periods of *Light Load*, enabling Steam Plant to shut down.

Can be used with any Direct System for completely displacing gas.

The ONLY Company owning and supplying complete Automatic Regulating Apparatus for use with Accumulators.

Write, stating system used, capacity of plant, power available and other requirements, to

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DETROIT OFFICE,
91 Griswold St.

O. E. MADDEN,
PRESIDENT.

EZRA T. GILLILAND,
VICE-PRESIDENT.

THE EMPIRE CITY ELECTRIC COMPANY.

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OF EVERY DESCRIPTION.

TELEGRAPH apparatus, material and supplies A Specialty.

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Send for large new catalogue.

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IT WILL PAY YOU TO CALL OR WRITE.

ESTIMATES CHEERFULLY FURNISHED.

THE TELEGRAPHERS' MUTUAL BENEFIT ASSOCIATION. A FRATERNAL LIFE INSURANCE SOCIETY.

Twenty-second Year.

For Particulars, Address T. E. FLEMING, Secretary,
Box 3175, New York.

GOLD AND STOCK LIFE INSURANCE ASSOCIATION.

TWELFTH YEAR.

For Telegraphers and Others in Electrical Service.

INITIATION FEE, \$1.00. DUES, 50c per Month. INSURANCE, \$600.00.
In Payments of \$50.00 per Month for One Year.

WM. J. DEALY, Secretary,

(Room 58.)

195 Broadway, New York.

ALBERT H. DAKIN,
MANUFACTURER OF THE
EAGLE BRAND OF MANIFOLD

AND
CARBON PAPERS,

FOR
STYLUS AND MACHINE WRITING,
60 Barclay Street,
NEW YORK.

PRICES ON APPLICATION.

Telegraphers' Mutual Aid and Literary Association of Boston, Initiation Fee, \$2.00.

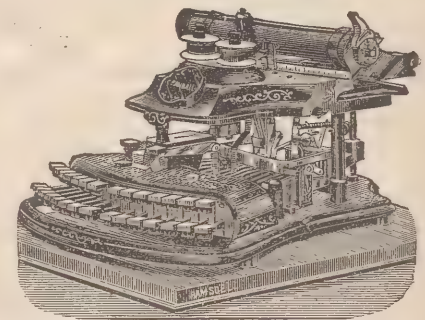
Dues, 25 cents per Month; Sick Benefit, \$7.00 per week
Death Benefit, \$50.00.

Qualifications for Membership:—Good Health, em-
ployment in Electrical Pursuits, 18 years of age, resi-
dence in vicinity of Boston.

ROBERT E. TOBIN, President,
GEO. H. WINSTON, Secretary,
177 Devonshire Street, Boston.

TELEGRAPHERS' AID SOCIETY.—G. Irving,
President, J. M. Moffatt, Secretary, address 195
Broadway. Dues 50 cents per month; pays \$8
per week, and \$100 at death. Qualifications: Good
health, employment in electrical pursuits, and
residence in vicinity of New York. Applications
solicited.

The New Model Crandall A PERFECT TYPE-WRITER.



PRICE, \$75.00.

BEST FOR TELEGRAPHERS!

This machine meets the requirements of Tele-
graph Operators better than any other Type
Writer on the market. It is speedy, almost
Noiseless, has perfect alignment and **writing
in plain sight**, even to the last letter, thus
allowing the operator to correct the "bulls" of a
"blind" sender without the delay of shifting the
carriage. **It is the cheapest** standard writ-
ing machine in the world. Send for circulars and
ustrated catalogues to the

IRELAND BENEDICT CO., (Limited),

Sole Agents, Binghamton, N. Y.
NEW YORK OFFICE,

B. G. GRANVILLE, MANAGER.

157 BROADWAY,

FOUNTAIN AND STYLO PENS.

Fountain Pens, \$1.50 and upwards



The FOUNTAIN PEN consists of a highly finished hard rubber holder, fitted with superior 14-kt. GOLD PEN to suit any writer.
"INDEPENDENT" STYLOGRAPHIC PEN. PRICE, \$1.00 AND UPWARD. EVERY PEN WARRANTED.
Writes as smoothly as a Lead Pencil and is ALWAYS READY FOR USE.

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BUFFALO ELECTRICAL SOCIETY.

An able and instructive paper on "Electric Street Railways" was read before the Buffalo Electrical Society at its meeting March 4, by Mr. Frank Kitton, chief operator of the Western Union Company, who described the various systems in use in this country, and compared their efficiency and economy with those of horse and steam service. After recounting the disadvantages of horse, steam and cable power, Mr. Kitton said, electricity offers several ways out of the difficulties enumerated. There were no fewer than 72 electric street railways in this country and Canada. Among the advantages which each of the different electric systems offer are, that with electricity the expense for "feed" in the shape of fuel is regulated by the number of cars in actual operation at the time and not by the size of the plant, as with horse power. During strikes, or at times of plague in the stables, the advantages of electric-motor power are most apparent, for the power plant can then be shut down and the consumption of fuel stopped until the trouble has passed, where otherwise the barns would be filled with horses "eating their heads off."

There were those who were skeptical as to the practicability of operating electric cars in localities where snow and ice abound, said Mr. Kitton. Experience, however, had shown that snow and ice offer little, if any, opposition to their working. At Des Moines, Ia., recently, the motor cars of the broad-gauge railway company made their regular trips every 15 minutes during a severe snowstorm, when the horsecars, with four horses to each car, could not run on time, and the steam motor which runs out into the north end of the town was ditched.

One of the severest storms which St. Joseph, Mo., ever experienced occurred on November 9th, when the telegraph, telephone, and electric light wires broke under the strain of the accumulated damp snow on them, but left intact the overhead wires of the electric railway, the cars of which continued to make their regular trips without stoppage or delay, which goes to prove that a well-constructed overhead system cannot be easily disarranged and that the tractive powers of the electric cars are surprisingly great.

The motors are placed on the cars in such a manner as to greatly augment the traction, and to leave available for general traffic all that space ordinarily occupied by the horses. The electric car can increase its speed when necessary, without detrimental effect, and at very little additional cost. Upon grades it has proved itself equal to any reasonable emergency, and it can be moved backward as well as forward at the will of the driver. Electricity has none of the disadvantages of the direct application of steam power, and is vastly superior to the cable system. There is but slight waste of electrical energy in transporting it to the cars, each of which moves perfectly independent of all other cars, and an accident to the conducting wire only renders a small section of the road temporarily inoperative.

Mr. Kitton spoke of the other advantages in favor of electricity, which he said may be furnished either by means of storage batteries or by dynamo machines at a power station supplying a conducting-wire with the necessary current. The storage-battery system was undoubtedly the ideal one, but Mr. Kitton did not think it had yet arrived at that stage of perfection where its use could efficiently and economically supplant horse-power under all conditions.

THE TELEGRAPH CLUB.—In one shape or another, the spirit of association has manifested itself in the telegraphic ranks in the past few years, and has assumed forms calculated to satisfy at least a sufficient number of active members and those susceptible to co-operation to insure the successful culmination of all the original ideas under that head.

Among them may be mentioned the Building and Loan Association, the Gold and Stock Insurance, the Aid Society, the Magnetic Club, and the Single Tax Club, all of which, bear testimony to the ability of the telegrapher to recognize

and support a good thing when it is presented to him. The latest, and it may be said not the least agreeable or useful of them all, is the formation of the "New York Telegraph Club" with an immediate membership of over one hundred, which is the result of but a few days canvass. Whether or not this Club succeeds, its purpose is surely a laudable one.

Recreation is a good thing, and in the case of the telegrapher is as necessary as it is good. Relaxation from the strain of office confinement, with its back aches, head aches, tired eyes and stiffened fingers and its general life-sapping tendencies, which not to check, produce such a degree of inertia in the individual that there would soon remain hardly enough mental and physical vitality to perform duties in any but the most perfunctory manner. This is followed by a consequent lack of ambition and energy, even to the almost total extinction of the sunny, humorous and vivacious element of our make up, which too frequently is stifled for want of free play.

The promoters of the club do not claim to be able to regenerate its members, but propose to create opportunities for the enjoyment of a fuller expression of the sentiment of fraternization, which is ever ready to assert itself at all openings; that there is fun and skill in the telegrapher no one can doubt; all he wants is a chance to prove it. The club members propose to engage a suite of rooms adjacent to the 195 Broadway Office, to be fitted up in a manner becoming the object. There shall be a library (by voluntary contributions of books,) billiard and pool tables, chess, checkers, piano; its sporting committees for baseball, fishing, possibly short walking tournaments, in fact any specie of sport that might be suggested by the season, and inclination of its members, all of which may be secured to each at the minimum cost. This programme, of course, will not be carried out haphazard but will be developed in proportion to the ability of the club which has every expectation of gratifying the most sanguine. Both ladies and gentlemen of the profession are eligible for membership. It is hoped that all telegraphers, irrespective of other club affiliations will co-operate in making this affair a crowning success.

T. W. GREENE.

THE FIGURE SIX SAVES A REPUTATION.—The following story is told by a well known operator. "The figure 6 saved my reputation as an operator. I was a good railroad operator eight years ago, but my ambition was centered in working in a large Western Union office. I got a few pointers from a friend about commercial business, and soon afterwards 'struck' the main guy of the Chicago Western Union office for a position. He asked me if I was a first-class operator, to which I responded without a blush that I was. I also named several cities where I had worked (this on suggestions from my friend). There being no question (?) about my ability I was put to work.

The first day I was detailed to the receiving side of the Detroit quad. I sat down with fear and trembling. Billy C— was sending, as I afterwards came to know. It was the sixth day of the month. Now Billy is a shining light in the profession, and his only 'bug' is the figure 6. You could positively write a two-column article for the AGE while he was laboring on a 6. When Billy started at me, I thought my time was short in Chicago; but when he came to the date, I had plenty time to fill in number, time, date a few blanks ahead, wink at a check girl, get a chew and look around the office. Whenever Billy encountered the date I always had time to look over the previous message, and fix it up. In this manner I turned out a very creditable copy and my reputation was made. It so happened that for the next week I was put on way-wires and didn't strike a 'roast' until I was able to hold it down. It was a very lucky circumstance for me, and when I afterwards made Billy's acquaintance I assure you I was very profuse in my thanks. Billy says he has never since regretted his inability to make a 6."

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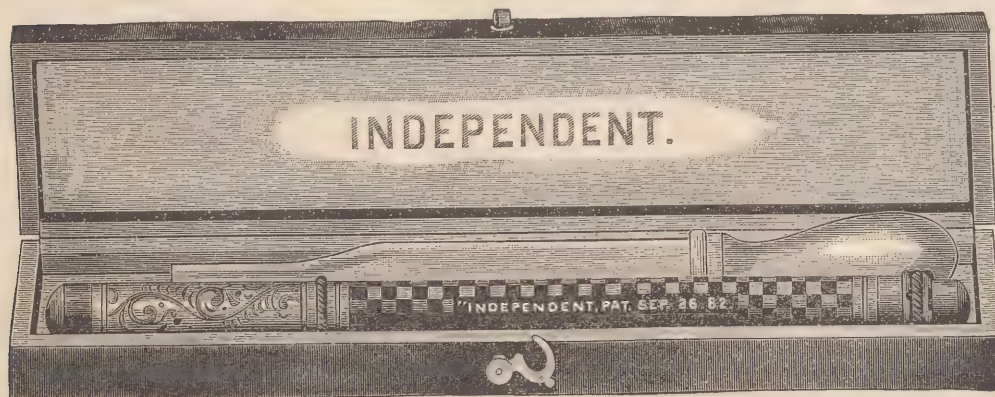
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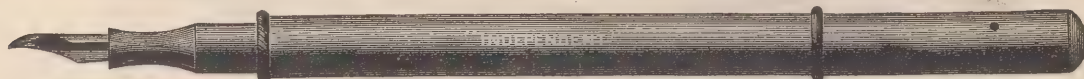
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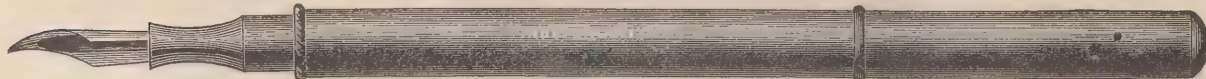
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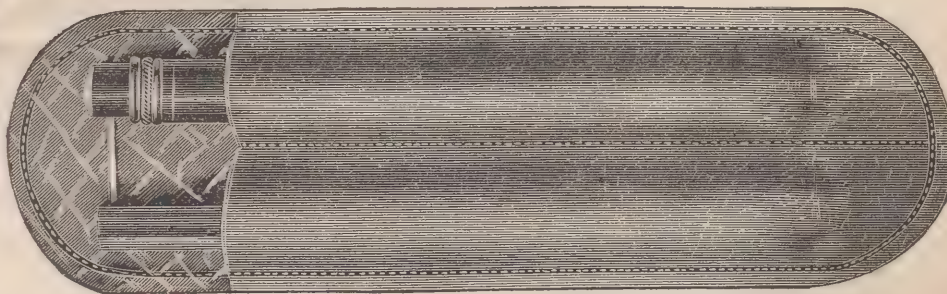
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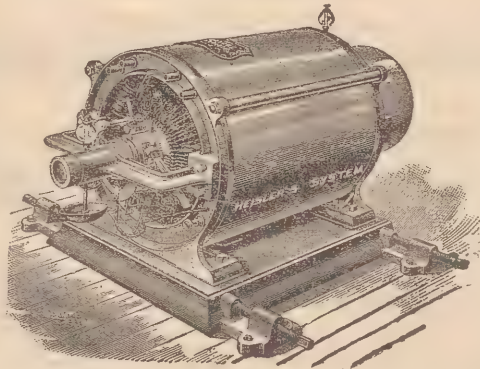
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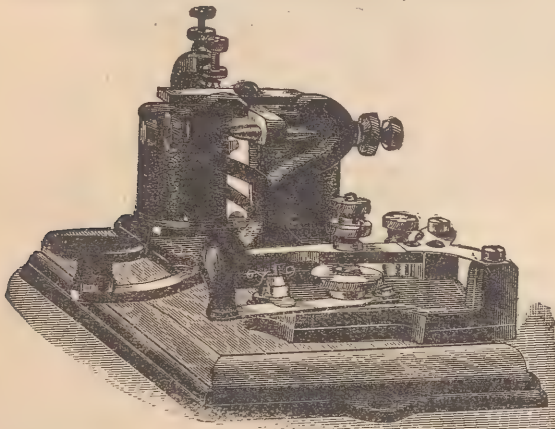
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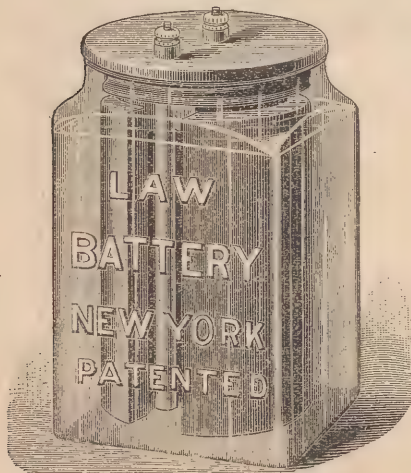
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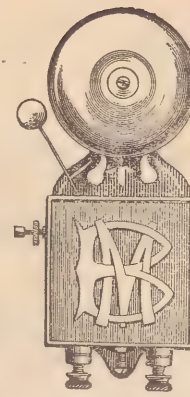
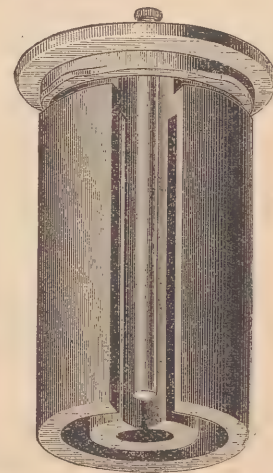
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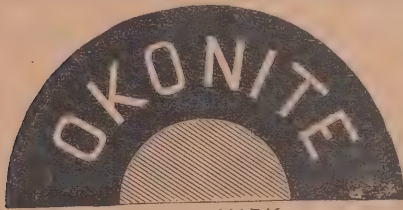
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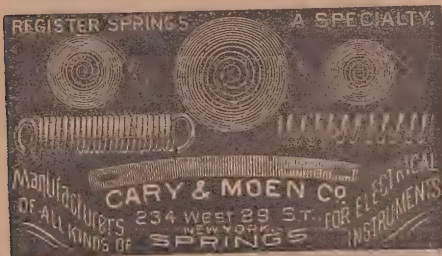


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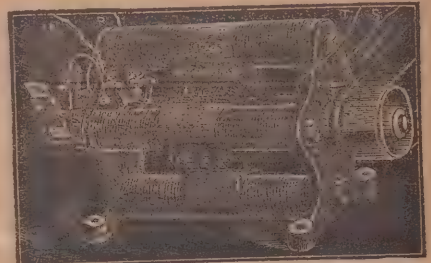
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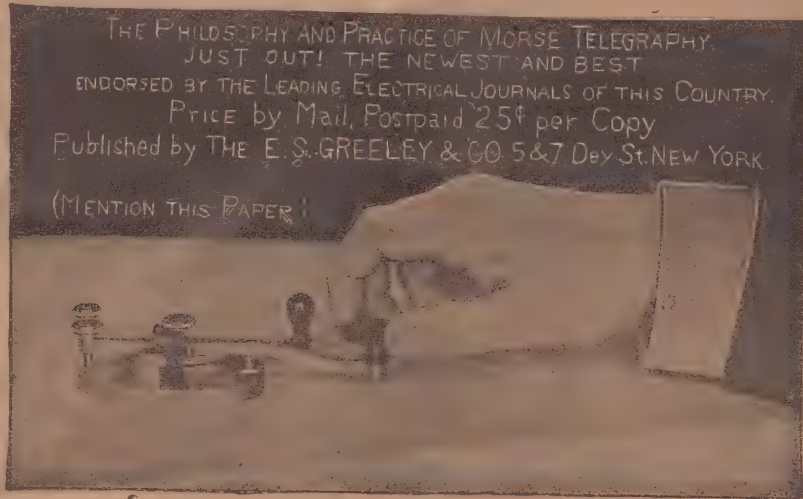
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No. 10, of March, 1889.

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“A rational and practical guide for the young telegrapher, intended to make him acquainted early in his career with a few underlying facts and laws that usually, without specific study, only come to his knowledge after years of service and practical observation.”—*The Electrical World*, Mar. 24th, '88.
The truth (referring to the true position of the telegraphers' hand in the act of “sending”) exposed by a lightning wink of the instantaneous camera, and permanently fixed for our deliberate inspection by the science of photography, dawns upon the craft intellect accompanied with something of the amazement that startled the artistic world when the elaborate anatomical studies by Rosa Bonheur of the horse in the act of running, were delivered over to universal ridicule by the subtleties of the same agent, instantaneous photography.—*The Electrical Review*, March 24th, '88.

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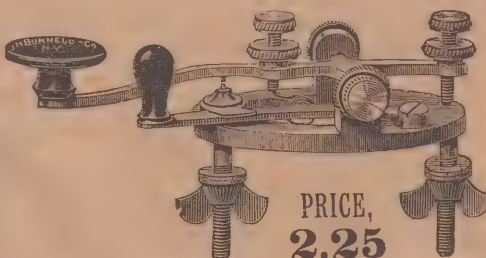
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Telegraphers cannot fail to have noticed that upon the introduction of the BUNNELL STEEL LEVER KEY four years since, it at once achieved a vast popularity, such as never before attached to any specialty in Telegraph Instruments, and that this popularity has continually increased, and is still increasing.

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STEEL LEVER KEY as possible, or made with some kind of a "steel lever," or "patent lever," and in every case claiming all the merits possible and impossible that language could describe.

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THE COMMERCIAL GAZETTE.

C. G. Muller, Agent Caligraph,
Cincinnati, O.

Cincinnati, October 5th, 1885.

Sir:—About three months since, I commenced to use the Caligraph with a view to receiving special despatches from the wires, instead of by the old method of the pen. In about three weeks I was able, by diligent practice, to write from thirty-five to forty words per minute. Since then I have been using the machine with success receiving from five to six thousand words per night upon it. We have found the machine of such value in the work as to be able to receive the despatches by code, or abbreviation, thus increasing this capacity of the wire, though the matter is written out in full upon the Caligraph. We make an average speed of fifty words per minute by this method, and expect to do still better work with it.

The machine is a No. 2 and must be a marvel of durability, as it has never been out of order under this continuous and heavy strain, and is always ready for use.

Very truly yours, Signed, Frank B. Ross, Opr. Commercial Gazette.

October 5th, 1885.

C. G. Muller, Esq., Agent Caligraph, Cincinnati, O.

Dear Sir:—I cheerfully certify to the correctness of the above statement of our operator. Signed, Chas. E. Thorp, Telegraph Editor C. G.

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NEW YORK, Aug. 2, '88. Highest speed on correspondence.

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NEW YORK, APRIL 1, 1889.

The directors of the Western Union Telegraph Co. met in New York March 13th, and declared the regular quarterly dividend of $1\frac{1}{4}$ per cent. The revenue for the quarter ending December 31st was \$1,685,807, out of which \$1,289,712 was paid for interest, sinking fund and dividend charges, leaving a net surplus \$396,807. For the current quarter ending March 31st, the earnings are estimated at \$1,350,000 the interest, sinking fund and dividend requirements amount to \$1,285,945, leaving a surplus of \$64,055 and making the total surplus after paying the dividend just declared of \$8,383,908.

The South Atlantic Telegraph Company of Baltimore City has been incorporated with a capital stock of \$50,000. It is said that the new company is to form a link in the Mackay-Bennett Postal Telegraph Cable Company system, and is for the purpose of purchasing and owning the lines of that system in Maryland, which are now only leased. The scheme embraces an amalgamation with the Southern Telegraph Company of Virginia, the Southern Telegraph Company of North Carolina, and the Southern Atlantic Telegraph Company, whereby lines of wire may be secured extending to New Orleans and covering the entire South and Southwest. This entire system is to be controlled by the Mackay management.

A long distance underground telegraph cable is said to be laid between Washington and Boston, Mass., by the Spaulding Telegraph Company. General Manager John G. King submitted a form of application to the commissioners for the necessary permits to enter the capitol with the cables. His letter states that Washington, Baltimore, Wilmington, Philadelphia, New York, Boston and other cities will be connected, and they will be given much more constant, uninterrupted and cheaper service than is possible by overhead wires. The cable will be laid in a six inch cast iron pipe, laid one foot below the surface of the ground, and will contain from 75 to 150 copper wires, each insulated.

The telegraph business is increasing more rapidly than the facilities. Owing to the decided stand taken by Mayor Grant of New York city against adding to the number of wires now on poles, the companies are unable to do anything to relieve the situation. At the same time they are not anxious to put their wires into the Broadway ovens and aqueducts, provided by law.

THE MORSE SOUNDER ON CABLES.—Mr. Chas. G. Burke, the New York electrician, has about completed his cable system, whereby he has been enabled to work Morse over the Atlantic cables. Mr. Burke will leave in a few days for Ireland for the purpose of putting in the instruments on the direct cable to test the system between Ireland and America on the long end of that cable. Between Canso, N. S., and Rye Beach, N. H., in testing the Burke apparatus, there was practically no difference between the working of the cable and an ordinary city wire. On this circuit the "mirror" is in constant use. Of course the substitution of the Morse sounder for the "mirror" and "recorder" means an increased speed. Mr. Burke has spent a great many years in perfecting his plans, and it is now thought by cable experts that he has at last successfully solved the problem of applying the Morse sounder to the cables. If the system proves a success, the carrying capacity of the Atlantic cables will be greatly augmented. At the same time, success in these experiments means an earlier start in the laying of a Pacific cable. One of the drawbacks to the latter enterprise now, is the great stretch of cable necessary to connect the two continents, over which, some electricians express the belief that it will be with much difficulty to exchange any of the present systems of cable signalling.

THE TABLES TURNED.—A well-known New York operator a few days ago telegraphed his wife, who was visiting relatives in Virginia, that he could not join her, but for her to remain as long as she liked. The message was sent D. H., as is customary. When the lady received the message it read, "I cannot join you. Stay there as long as you live." Check 12, collect 35 cents. The lady hastened to New York to ascertain the why and wherefore of the dispatch which so unceremoniously cut short her visit.

A TELEGRAPHER DECORATED.—It will give the American friends of Mr. William Slater, resident manager of the Western and Brazilian cables at Rio de Janeiro, much pleasure to hear that he has been decorated with the Order of the Rose by the Emperor of Brazil, in recognition of important service rendered by him to that country. Mr. Slater has lived many years on the Brazilian coast and we heartily congratulate him on his new honors.

F. W. Sabold, the Western Union manager, Albany, N.Y., was adjudged guilty of contempt for refusing to produce the Snaith despatches, and was ordered to be sent to the county jail until he should purge himself of contempt. This was on March 20th; Mr. Sabold is a genial gentleman and his sojourn in the County jail cannot be relished to any degree of pleasantness by his numerous friends; but his time in that institution was short.

The Postal Telegraph Company has a gang of men at work in Iowa, setting poles along the Chicago, St. Paul & Kansas City railway track. The Postal Company proposes to put two new copper telegraph wires from Chicago to St. Joseph, Mo.

The Western Union at Washington, D. C., handled on March 4th, about 1,400,000 words of "specials" and the Postal 100,000 words.

Mr. E. T. Gilliland, an old time Cincinnati, Ohio, operator, has been elected president of the New York Electric Club.

Miss B. Starin has been added to the Postal force, 5 Beekman street.

A SKETCH OF THE HISTORY, DEVELOPMENT AND PRACTICAL APPLICATION OF THE ELECTRICAL CONDENSER.

BY WM. MAVER, JR.

From *The Electrical Engineer, New York.*

PART 2.

"But meanwhile practical men have introduced condensers of a more convenient form, overlooking the disadvantages which they all possess of illdefined capacity. These condensers consist of sheets of tin-foil separated by paraffine and paper, a preparation of gutta-percha, or mica, three plans adopted by Mr. Varley, Mr. Willoughby Smith and Mr. Clark, respectively.

"Mr. Jenkin has adjusted a mica condenser approximately equal to 10.14 absolute electro-magnetic units. The capacity of this condenser is assumed as that which it possesses after electrification for one minute, and is measured by the discharge through a galvanometer in manner usually practiced when testing the charge of a submarine cable. * * * While, therefore, the new provisional unit of capacity has no claims to a high scientific accuracy, it will supply a practical want, and introduce a unit based on the principles adopted by the committee, in place of the random measures supplied by a knot of Persian Gulf or Atlantic cable."

This knot of cable as a unit of capacity, although perhaps somewhat crude, was a decided advance in what may be called the unit of capacity of a Leyden jar in the early days of the history of that instrument, which was determined by the length of wire which its discharge was able to fuse. It appears (Nicholson's *Journal of Natural Philosophy*) that the highest charge of a battery belonging to Dr. Van Marum, and containing 135 square feet of coated surface, could just fuse 180 inches of iron wire 1-150 of an inch in diameter, or six inches of iron wire 1-40 of an inch in diameter. Another battery belonging to the same person, and containing 225 square feet of coated surface, could melt, with its highest charge, 300 inches of the first mentioned wire, or 10 inches of the last. Also, the highest charge of a third battery, which contained 550 square feet of coated surface, could fuse 25 inches of the latter wire." Cavallo, on this point, says: "The force which is required to melt wires of the same metal must be greater or less, according to the length and thickness of the wire; but it is far from bearing any direct proportion to the quantity of metal. For if a wire of a certain length and diameter be barely melted by a large battery (Leyden jars), a wire of equal length and twice the substance cannot perhaps be melted by less than ten such batteries," which is interesting as showing that Professor Cavallo was here in a fair way to discover the actual heating action of the current, which, as is now so well known, varies as $C^2 R$.

Within the last few years there has been a decided improve-

insulation resistance of over 20,000 megohms, and much higher insulation can doubtless be furnished. Standard condensers of similar capacity made in this country have shown a resistance of over 28,000 megohms, and a still higher insulation can be obtained if desired. But for ordinary testing and experimental purposes this insulation is found sufficient.

Tests made of paraffine paper condensers designed for practical application in telegraphy and particular electric lighting purposes, have demonstrated the capability of such condensers to withstand being placed between the poles of a 1,000 volt alternating current dynamo for twenty-four hours without injury, and hundreds of similar instruments are in use in this country, in telegraphy and telephony, under conditions which virtually subject them to the strain of lightning arresters, also without injury. These condensers are of American manufactures, and in view of the fact that at least one system of telegraphy in Europe has been in some instances abandoned, partly, at least, on account of difficulties thrown in by the failure, from lightning, of the condensers employed in its operation, while another system in this country has been more or less seriously injured by the use of an inferior quality of condensers, and as others may be deterred from developing apparatus or systems requiring the employment of this useful instrument on the assumption that reliable condensers cannot be manufactured at commercial rates, no apology, need, I think, be offered



Fig. 6.

for introducing the foregoing information as to the high merit of American condensers.

A somewhat generally adopted method of arranging the plates and dielectric of the modern condenser is that de-

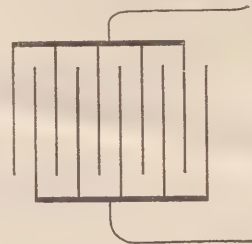


Fig. 7.



Fig. 8.

vised by Varley, in which one corner of the plates of tin-foil, A and B, and two corners of the dielectric C, are clipped, as in figure 6. Each series of plates of tin-foil is placed with the cut corners together; the cut corners of each

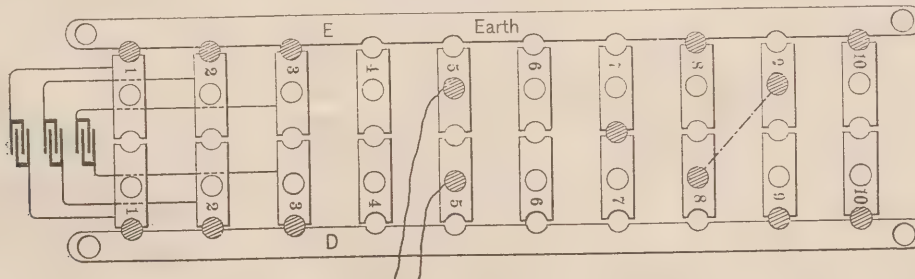


Fig. 9.

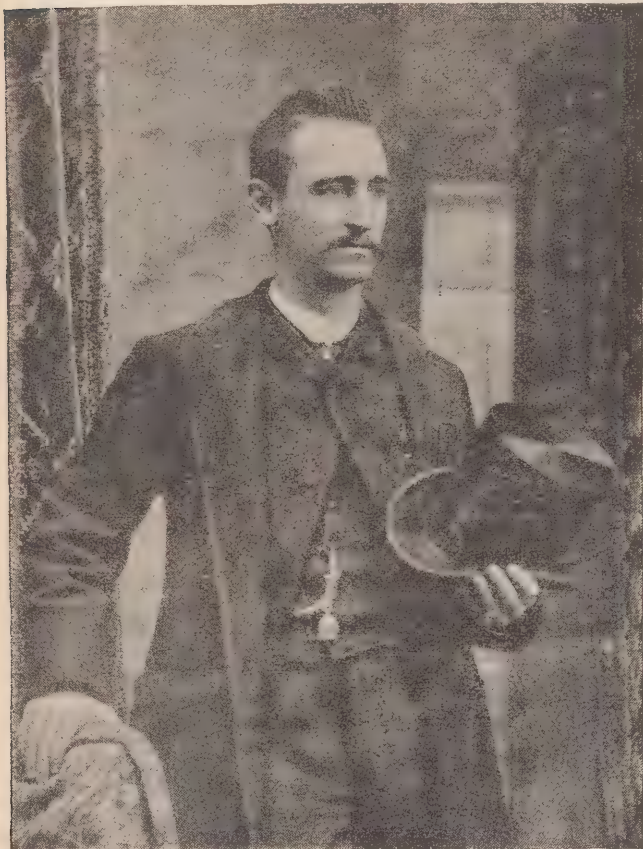
ment in the construction of condensers both as regards stability of the insulation and the retention of charge, two qualities that go together. Standard condensers of one-third microfarad capacity, made in Europe, have shown an

alternate series of plates being placed on opposite sides, with the dielectric between and extending beyond the edges except at the clipped corners.

(To be continued.)

A. M. BARRON.

Adolph M. Barron, superintendent of The Home Telegraph Company, of Kansas City, Mo., was born in Milwaukee, Wis., October 22, 1854. He was apprenticed at an early age to the printing business, which he followed for three years. In 1871 he accompanied his parents to Muskegon, Mich., where his quick and bright manners attracted the



notice of G. P. Kingsbury, manager of the Western Union Telegraph Company, who assisted him in acquiring a telegraphic education. He returned with his family to Milwaukee, Wis., in 1873, where he was installed as night operator at Plymouth Junction, Wis., for the Wisconsin Central Railroad. From this service, which was too quiet for his active and restless nature, he returned in a few months to Milwaukee, and accepted a position as press operator at the *Banner and Volksfreund*. Superintendent Tinker, of the A. & P., while on a visit to Milwaukee, was attracted by young Barron's appearance, and having been informed of his ambition to branch out, detailed him on construction. From this time his progress was rapid and as fast as one telegraph company was "merged," his services were sought for by the always present "opposition." Thus he was connected in various capacities successively by the Mutual Union, American Union, Postal, Bankers & Merchants, Baltimore & Ohio, and lastly the Pacific Mutual Telegraph Company, when in 1886 he was appointed chief operator at Kansas City, Mo. In 1887, the Postal having extended its lines to Sioux City, Iowa, Mr. Barron was selected as manager, where he remained until May, 1888, when he was called to Kansas City, Mo., to occupy his present position, by Geo. M. Myers, general manager, who had assumed charge of the Home Telegraph Company, which is purely a local district company, but second to none in the United States. Mr.

Barron, personally, is a man of solid qualities. He has a backbone without a flaw, his private character is unassailable and socially he is an interesting man. Naturally observant, mentally active, he is well educated and has traveled widely. As an electrician and a practical man on construction he is a recognized authority in the west.

J. H. Barnes, of Blacks' S. C., has reopened his plug factory. One of the unique attractions mentioned in his circular is that the location is desirable as a summer resort and a healthier place cannot be found. Good mineral water within the corporate limits, and scenery equal to many noted places of Western North Carolina. This is very important to those desiring to learn telegraphy.

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ELECTRICAL INFORMATION.

Electro Mechanic.

Porous Cups for Batteries. Porous cups are made of porous clay, baked in a kiln. It may be necessary to mix a little sand with the clay to prevent it from cracking, and it is quite possible to fire them in an ordinary stove.

Electrometer. An instrument used for measuring electric current.

Carbon Filament.—New forms of carbon filament are constantly appearing. In all of these, however, the filament is of a vegetable fibre, carbonized by heat.

Acoustic Telephone.—There is no battery or electrical force in this telephone, and it is supposed that the sound is transmitted by the body carrying vibrating and forming air-waves which the ear recognizes as speech. This device is much more efficient for short lines, where the wire can be suspended clear of other objects, than any telephone depending upon electricity.

Battery Power.—Twenty cells, each having eight square inches of zinc and copper, facing each other, will answer with carbon zinc excited by electropoin fluid, to run a Sawyer Mann 19 volt 12 c. p. incandescent lamp.

The Component Parts of Disque LeClanche Battery.—The porous cup contains a carbon prism embedded in clear graphite and binoxide of manganese, mixed in about equal parts. The outer cell contains an unamalgamated zinc rod. Sal ammoniac is the exciting fluid.

Electric Stop Valve.—This is an oscillating valve, whose stem has a weighted arm to drop and close the valve, with a catch and electro-magnets for operating it; the magnets being in the circuit of a battery whose wires extend through the building, with push-buttons for closing contact and operating the valve. Robert Wellens, Pittsburgh, Pa., is the inventor.

Ampere—How Measured. Strength of current is measured in amperes. Speaking of a water-wheel, we say we find a current flowing at the rate of so many gallons per minute to drive it; speaking of an electric lamp, we say it needs a current of one to fifty amperes to keep it glowing.

Coulomb.—When a current of one ampere strength flows for one second, the quantity of electricity delivered is called one coulomb. The term is not much employed in practice, but it may be in the end the most familiar of all; for when the electric light comes into use in dwellings, we shall pay for our electrical supply at so much per 1000 coulombs, for example, as we now pay for gas at so much per 1000 cubic feet.

The O. R. T. draws the line very close, between the "bum" element, and the faithful operator. The line is just close enough to exclude the bum every time. The telegraph service is consequently improving.

TELEGRAPH CABLES ACROSS THE PACIFIC.—It is anticipated that one of the main subjects of discussion at the forthcoming conference between Canada and the Australian Colonies at Sydney in the summer, will be the question of a more complete and efficient system of cable communication between these two portions of the British Empire.

JACKSONVILLE NOTES.—E. B. King, formerly chief operator, Western Union, has returned and is now assistant chief, days. Mrs. E. J. Herrington has gone back to New York. Mr. Wilson has gone to Charlotte, N. C., for a broker's office. Mr. Stroud is on a visit indefinitely to Atlanta.

SUICIDE OF AN OPERATOR.—W. B. Lamar, an operator formerly in the employ of the Jacksonville, Tampa and Key West Ry., committed suicide, recently, by shooting himself in the head. He had been drinking very heavily of late, and was discharged from the position he held at Enterprise Junction, Fla. This and the recent death of his mother is said to have been the cause.

The new French cable to Hayti, San Domingo, Curacao and Venezuela has been opened.

Edwin Gould has been elected a director of the Washington and New Orleans Telegraph Company in place of his father, Jay Gould.

Canada has revoked Edison's electric light privileges for non-compliance with conditions.

The Connecticut senate has passed a bill making it a misdemeanor to tap a telegraph or telephone wire for detective purposes.

Louis C. Hunt, the old colony telegraph operator at South Farmington, Mass., has been presented with a costly gold Waltham watch on behalf of many employes.

ENGLISH TELEGRAPH CLERKS FOR THE CAPE.—Four of the most expert telegraphists in the Leeds post-office, named MacLeannan, Tate, Flaxington and Oddy, have accepted appointments in the Cape telegraph service. English colonies are requiring increased numbers of well-trained English telegraphists, and as they offer strong temptations, financially and otherwise, our home ranks are likely to be somewhat thinned, but happily there are plenty of candidates for vacancies.—London *Electrical Review*.

THE TELEGRAPH CLUB.—The New York Telegraph Club, the first of its kind in this city or vicinity, is a reality and we hope a permanent institution. Like other associations it has been a necessity to the fraternity; and now it has come.

It has come to stay, and we welcome it with both hands.

Scarcely a month has passed since the subject of organization was first discussed by a few of the present membership of 125, but great work has been accomplished within that time. The officers of the club and the members give every assurance that before the year 1889 shall have become a thing of the past, the New York Telegraph Club will have made itself certain of a great and useful future.

The promoters of the club have not made much noise; they have gone about their work quietly, but with an energy and earnestness of purpose which has assured success from the start.

Those identified with the institution thus far may be fairly considered to represent the best element of the profession and in the work they have undertaken they feel that the entire fraternity will derive benefit.

Club rooms will soon be secured and fitted up; the reading room and library and perhaps the gymnasium will probably be ready for the reception of members within thirty days.

To gentlemen who are in the habit of being over punctual at the office, these pleasant quarters will no doubt prove far more attractive than the corner of Broadway and Dey street, or the corridors of 195. They will be cool in summer and warm in winter and the boys will feel that they are in nobody's way.

Those who receive the courtesy of appointment to the "split trick," will find facilities for whiling away the tedium of a "wait between the acts."

The day force will enjoy evening privileges and the night force, day privileges, etc.

Excursions, dinners, athletics, receptions, etc., will be the rule for the coming season and the members of the New York Telegraph Club will be the merriest lot of telegraphers in the world.

The constitution and by-laws are now printed and ready for distribution and may be had on application to J. C. Watts, the recording secretary, at 195 Broadway.

After a perusal of the contents we are satisfied that the club's membership roll will soon show a gratifying increase.

Every telegrapher who is eligible should become a member.

TO TELEPHONE IN WHISPERS.—Two Bath, Maine, electricians, F. A. Johnson of the electric light station, and D. C. Shaw, of the Western Union office, have nearly perfected a telephone transmitter which they are confident will prove entirely superior to any similar instrument now in use. By a private wire between their residences, a mile or more, they can whisper to each other, and the claim is made with this machine whispers can be transmitted from Bath to Boston. It is entirely different from any now in use, is comparatively simple, and not liable to disarrangement. It is practically completed and only a few points remain in the setting up.

PHILADELPHIA NOTES.—The Western Union at this point is under the management of A. G. Saylor, his twin brother E. B. Saylor, chief operator; traffic chief, Geo. Merrihew; wire chief Wilde, with assistants Maize, Benckert and Barto, night manager J. P. MacLorraine, Mr. Dossantos, at the board, and all night chief, Firman. The press matter is now handled through the new office in Post-office building. The office is in charge of Mr. J. W. Dyer, formerly manager of the B. and W. Co., in this city. Mr. Bigler, night manager, with operators Congdon, Christy, Feazel, and Miles. There are thirty-one ladies, engaged at present at the main office. H. P. Hardiker has been transferred to Tyrone, Pa. The Stock Exchange office is in charge of Mr. J. S. Eves, with assistant J. S. Parker, and J. P. Williams, late of Postal. There is sharp rivalry here for the outside business by both companies. The veteran Col. Green still holds forth as of yore, and his fund of Anecdotes is inexhaustible; the Colonel entered the profession in 1847 at Baltimore being employed on the old Government line between that city and Washington. He had as relief operator Lewis N. Chasbeau, now and for many years past Captain of the Fairmount Park Guard. The immense amount of Press matter coming from Washington during the inauguration week compelled that office to ask for assistance, and Messrs. Shinn, Paulhemus Williams, McCarthy, Donnelly, Stetson and McKeever were sent to the Capitol. These gentlemen ably sustained Philadelphia's reputation for good operators, Mr. Paulhemus created a furor and was the recipient of many compliments for his beautiful and rapid sending.

The Baltimore and Ohio Railroad has just issued the eighth annual report of its Employees' Relief Association. The road deserves great credit for the venture, which has been systematically and progressively carried on and has benefited many thousands of human beings since its inception. It pays all expenses of those meeting with accidents while in the discharge of their duty as employees of the road; loans them money at 6 per cent., to build or repair their houses, and pays them 4 per cent., on all moneys deposited with the road for safe keeping, this being an advance of 1 per cent. over that allowed by any savings bank. The year closed with 154 names on the road's pension list. These pensions are paid by the road and not out of the contributions by members to the Relief Fund. Although the charter runs out in 1889, arrangements have been made to renew it, and the general wish of many who have given expression to their interest on the subject is that the road may go on in its good work.

TORONTO C. P. R. NOTES.—Mr. James Wilson, superintendent of the Ontario Division of the Canadian Pacific Railway, has been promoted to the office of claims agent for the Ontario and Atlantic divisions. There was a great gathering of railway men to celebrate Mr. Wilson's promotion, and also to show that gentleman what they thought of him. Mr. Wilson was presented with a purse of \$1,000 and a meerschaum pipe, and Mrs. Wilson was presented with a gold watch. Mr. Wilson entertained his friends with a table of luxuriant refreshments, at which over 100 sat down, and the entertainment was delivered till a late hour. The gentleman in question is one of the most popular officials of the

Canadian Pacific. He has a brother who is superintendent of the Western division of the C. P. R. Tel. Co., and a son who is night manager at Toronto.

It is proposed to start a plug factory at West Point, Va. We would advise the press of that locality to squelch this institution before it has robbed the community of some of its surplus cash. The usual fraudulent claims will be made, which are to the effect, that companies are starving for plugs at salaries of \$50 to \$150 per month. These claims are calculated to deceive the unwary, and those who suffer most, are those who cannot afford to pay \$40 or \$50 to have their eyes opened. Mayor Hewitt invoked the police force to break up dens of this character in New York. The mayor of West Point should do the same.

There are five separate companies operating transatlantic cables. None of them work direct from New York to Europe. The Anglo-American Cable Company, whose American landing place is Hearts Content, N. F., is the oldest company. This company acquired by purchase the cable of the French Cable Company landing at Duxbury, Mass., which gave them a total of four cables. The Direct United States Cable Company landing at Halifax, N. S., comes next with one cable. The Companies Francaise Du Telegraph De Paris, a New York landing at Eastham, Mass., is third in point of age, and has one cable. The American Telegraph and Cable Company has two cables landing at Canso, N. S. This route is better known under the name of "The Gould Cables." Next come the two cables comprising the plant of the Commercial Cable Company, also landing at Canso, N. S. All these companies connect with their New York offices by overland wires, except the Commercial Cable Company, who connect by another cable from Canso, N. S., to New York, with the exception of the International Ocean Telegraph Company, whose two cables to Havana, Cuba, are frequently connected with the American land lines at Punta Rassa, Fla., and worked through to New York city, Morse system. No cable company maintains direct communication between its initial and terminating points.

Mr. William C. Pearse, manager of the United Press, Philadelphia, has in company with Harry D. Hughes, and Porter F. Cope, two gentlemen of ability and enterprise, brought out in Philadelphia, a weekly paper entitled "*Society*" It is devoted to art, music, club notes, social events, literature, and the drama. There is an excellent field in the City of Brotherly Love, for just such a publication. Mr. Pearse is an old time telegrapher, and his training in the various branches of the electrical and newspaper science for the past few years, eminently fits him to adequately fulfil the requirements of "*Society*." We wish that publication, and its popular managers, unbounded success.

The Sprague company who control the Sprague system of electric railroads now used so extensively, are now equipping snow plows, to be operated by powerful electric motors, so that no snow, however deep, will be able to stop the running of the cars. It is estimated that these electric plows will clear the tracks quicker than an ordinary plow drawn by a dozen horses.

HEARD ON A JERSEY WIRE.—"Ny," "Ny,"—I. I. I., Ny—anything for me, darling?—"Oh," no ntg—art darling—Well, well, if I am so dear to you, you might grant me a favor—Only name it—well, I want you to subscribe for the ELECTRIC AGE, I am getting up a club—(Pause) sorry, but a fellow here takes it and I read his copy (quiet wire).

—John Frances, a boy of ten years, astonishes Reading by his proficiency as a telegrapher.

BOSTON NOTES.—The members of the Mutual Aid and Literary Association are jubilant over the grand financial, as well as social success of the recent ball; the net proceeds amounting to \$572.00. From a mutual aid point of view, this association has proved to be a splendid success. The Constitution and By-laws are now in the hands of a committee for revision, and many new and beneficial changes are expected to be made, among which will probably be the increase of the death benefit from \$50.00 to \$100.00. The intention was at the inception of the association to make a mutual literary as well as a Mutual Aid Society. The literary part so far has been sadly neglected, and now that the treasury is in a flourishing condition, notwithstanding the severe drain on it during the past year, it is to be hoped that more attention will be paid to literature and sociality.

Social and literary clubs have been formed in other cities, and according to reports in the AGE their beneficial effects are already felt. Boston is world-famed for its literary tastes and we think it within the reach of the telegraph fraternity to add their mite to enhance that good name. It has been the intention for some time to secure appropriate rooms, and furnish them with materials for physical and intellectual culture. A move in this direction is soon expected to be made.

The gradual increase of business from year to year at the Western Union here, has necessitated the introduction of several new quads, thereby cramping up considerably the already limited space. But as several elegant new buildings are in process of erection in the immediate vicinity it is expected the Western Union will soon occupy an office worthy a city of Boston's size and importance. Some time ago a leading Boston paper devoted a full column to a most interesting description of the W. U. service at 109 State street. It spoke in praise of the efficiency and promptness of the service, but described the operating room as "an uninviting place." The W. U. force from manager down, have for years been patient sufferers, so when the change does take place, it will surely be appreciated.

TOBIN BRONZE.—This metal which is now attracting so much attention in the electrical world is manufactured solely by the Ansonia Brass and Copper Co., New York and Chicago. As is stated in this company's new pamphlet, this metal when rolled hot is remarkable for the high elastic limit, tensile strength, toughness and uniform texture that it possesses and is stronger than ordinary mild steel rods or plates. Tobin bronze has received the endorsements of numerous electrical firms, all of whom testify to its superiority over other metals. Illustrated circulars will be furnished on application to above firm.

DE.'S BREVITIES.

"It seems to me," said the new operator as he tried to copy a few quotations from Mike Toomey, "It seems to me that the quotations come in rather thick;" "yes," said the irrepressible check boy in a low sad voice, "but they come in *ticker* to dat feller what sends from de tape." The girls sometimes indulge in a good deal of giggling but you ought to see the gigs the boys indulge in. 13-26-42 for instance. We blush to confess that we have never been ambitious after exalted positions in the office. But all the same we are as high now as we can get without going through the roof.

The C. N. D. operators frequently stroll to the Battery. But the chiefs generally Chase themselves for a Wark up to Irving place.

Customer (to receiving clerk)—"I say! is tomorrow one word ye naw?"

Clerk (of Irish proclivities)—"De ye want to send a message?"

Customer—"Certainly me bhoy."

Clerk—"Will thin tomorrow is two words. We charge fur infurmatation to foreigners."

Lunch tickets have a face value of 75 per cent.

They were standing in the basement looking at the old instrument in the large show case. "This" said the lame man pointing to the giant brass key was "used in the early days of telegraphy; a man could pound it with his foot." "Indeed!" said the other, "do you know that I have often wondered how you got crippled!"—*Tableau.*

There ought to be plenty of music in the race bureau. According to Stienmetz they have two good lyres there.

Assistant Manager to applicant—"You say in your application that you are a first class-man? What proof can you produce that this is true?"

Applicant—"I have letters from former employers, sir, which will substantiate my statement."

Assistant Manager—"Who was your last employer?"

Applicant—"Oliver Doud Byron sir—I played the operator in Across the Continent for 21 weeks, one night stands and all."

Assistant Manager—"We are full for the season and expect three heavy tragedians in to-morrow."

Birmingham, Ala.,—General Manager D. R. Robertson of the Southwestern Division of the Postal Telegraph Cable Company, is in Birmingham for the purpose of making arrangements for the establishing of a line of his company to Birmingham and other points throughout the State.

English electricians boast that they are far ahead of us in their knowledge of the science of electrotechnics, but acknowledged themselves behind us in the practical applications of electricity.

A submarine telephone line is being established between Buenos Ayres and Montevideo by a Belgian company.

On the Canadian Pacific road, where the snow sheds are in close proximity, an underground cable is used to secure communication and promptly to locate the site of interruption. At isolated sheds and suspected points very high poles carrying the lines clear of all probable obstructions are employed.

Charles Nier, of Scranton, Pa., ran a needle in his foot. Surgeons sought in vain for it. On March 22nd Nier was taken to the Suburban Electric Railway and his foot held near one of the dynamos. In fifteen minutes the needle was drawn out.

Some electric motors made by M. Trouve for aeronautical experiments are remarkable for their lightness. One—made of aluminum, except the magnet—weighs but a little more than three ounces, and develops one-fortieth of a horse-power, lifting itself seventy-two feet in one second. Constructed on the same scale a one-horse motor would weigh less than eight pounds.

John J. O'Brien, late chief of the Postal, Milwaukee, has gone to Chicago for the W. U., and Charles Hughes, of Chicago, has been appointed his successor.

Geo. M. Myers, of Kansas City, Mo., was in town last week; also John Campbell, of Pittsburgh, Pa., and John Mitchell, of Auburn, N. Y.

New York city has 12 telephone exchanges and over 300 telegraph offices. The Western Union Company control two-thirds of the latter.

The greatest progress evidenced in any of the applications of electricity is in its employment of lighting purposes.

Andrew Cowenloch, a telegraph operator at Milburn, N. J., is dying after a week's suffering from hiccoughs.

The Western Union at Bradford, Ct., has a message "boy" who is over seventy years of age.

A German peasant has been detected tapping a telegraph wire to cure his rheumatism.

BALTIMORE, MD., POSTAL NOTES.—Business is steadily on the increase and as soon as the weather settles, we all expect to be pretty busy. The boys are anxiously waiting for the Southern connections and then, no doubt, the operators delight, their purse, will weigh a little heavier on pay day with extra work. J. H. Twyford has been transferred from the Eutaw House to the fish and produce office and F. M. W. Savage takes his old place. J. H. Ward has left for a few weeks to visit friends in Chicago. D. Heil has been transferred to the main office and G. Rhein to the canned goods district.

Mr. H. C. Wooden, of the Postal, recently received a letter asking his advice as to whether telegraphing was preferable to the life of a machinist. Mr. Wooden immediately answered with a strong "no."

WESTERN UNION NOTES.—The anticipated "roast" at Washington during the inauguration drew on nine of our force, (day and night), viz: Charles Clagett, Alfred Gentry, Harry Montgomery and Geo. K. Bobb of the day force; J. H. Church, J. M. Creamer, Thomas Farley, W. W. Thweatt of the night force and J. E. Zell, extra. They all admitted that it was a roast, but were gratified with the treatment and well satisfied with the pay they received. The manner in which the enormous pile of press matter was handled without the slightest confusion or break caused comment from several of the visiting operators who had for the first time worked in the Washington office. On Wednesday afternoon, March 6th, when the rush was over, the Baltimore men were paid off and released; they then started out to view the city before departing for home. Messrs. Creamer and Gentry who wanted to see as much of the Capital City in as short time as possible astonished the natives by their evolutions on tricycles,—regular operators "on wheels," so to speak; not having been in practice, they are feeling tender just now. Herbert C. Green of the day force became dissatisfied with bachelorhood, and a few days ago quietly took a Baltimore lady as a life partner. He has the congratulations and best wishes of all. J. A. Glenn, of the late B. & O. Telegraph Co. is once more permanently located here for the W. U. Mr. Glenn is an old employe of that company, and has always had the respect and esteem of the fraternity and it is therefore a pleasure to the entire office to have him amongst us again.

DETROIT NOTES.—Mr. E. J. Linden is a recent addition to the day force. Mr. F. P. Cruice has been transferred from split trick to days, and Mr. Wm. P. Thompson, days, to split trick. Mr. Robert E. Cuppage, split trick, to days, and Jack Carroll, days, to split trick. Miss Jessie Ellis has returned from a two week's vacation and visit to interior of the State. Mr. Charley Risdon has been seriously ill and confined to his bed for nearly a month. He is improving, but slowly. Mr. J. P. Conley has returned to work after six week's illness. "Goshfind 7th" is the "way he sent it," but "Goshen, Ind., 7," would have been nearer correct. A party of telegraphers from this city lately visited the town of Ruthven, Ontario, thirty miles distant, for the purpose of viewing the burning gas wells of that region. It seems they were not entirely successful in their efforts to get an unobstructed view. In fact, they were on the ground early and had front seats, and while they were close up to the pipes, gazing open-mouthed, the flow of gas, which had been but partly on, was turned on full. There was a sudden flash, a terrific roar, and the frightened telegraphers displayed such alacrity in getting to the rear, regardless of guy ropes and other obstacles to locomotion, that in a minute they were "piled up" six deep. There is a suspicion growing on them that the narrow-minded minions of the natural gas company were laying for just such a soft mark.

SCENE 1.—Western Union operating-room; operator reading letter: "Owing to decrease of business, we will have to dispense with your services after the 1st. We may be able

to give you some extra."

Opr. walks up to Chief Operator's desk.—"Isn't it rutable that latest arrivals go first?"

C. O.—"Yes, sir."

Opr.—"There were two or three came after I did."

C. O.—"But they came as regular men and took old-established tricks, and you came as a new man and took a new trick. (Opr. walks away.)"

Scene 2.—Morning of the 1st. Opr. takes off coat and sits down at table. At 10 A. M. C. O. comes along:

C. O.—"Well?"

Opr.—"Yes," with rising inflection.

C. O.—"I see you are here yet."

Opr.—"Yes; going to stay till I'm put out."

C. O.—"We are seven men short this morning; you may stay to-day." (Walks off with a grin. Opr. at work yet.)

Mr. Sasi Sarbadhicary, the East Indian Morse telegrapher whom our readers will remember as having been mentioned in these columns on many occasions about a year ago, and who returned to England last October, has written an interesting account of his travels while in this country. It is in pamphlet form and consists of ninety pages of solid reading matter. It is written in an interesting manner and a few copies will be mailed to us from London soon, to be disposed of at fifty cents each. Mr. Sarbadhicary mentions almost every incident worth recording while in this country and gives the names of the persons with whom he came in contact.

"I want to send a message in a great hurry."

The Western Union operator braced himself for a "rush" message.

"It's to Chicago."

"Well, we have an open wire to Chicago."

"Can you send it right away?"

"Yes, madam."

"Well, you see, Emma's baby's sick, and Charlie is away on a trip."

"Well, what shall I say, madam?"

"You see, I can't just think where he is. Do you know?"

The operator had to admit that he did not.

"Well suppose you send it to Chicago."

"Well, suppose you do. Where is he?"

"Have you a Chicago directory here?"

"Yes, ma'am" (handing it to her).

"I am afraid I have forgotten the address."

"What business is he in?"

"I don't know; he makes a good living though. Don't you think a telegram addressed to Chicago would reach him?"

"I'm afraid not."

"Well, then, I'll go home and find out his address. Can you tell me the nearest car that will take me home?"

"No, ma'am, I cannot."

"Well, it seems queer to me that you telegraph operators don't know anything."—*Truth.*

Charles H. Schram, after a two month's vacation at his old home, in Ohio, has joined his comrades on the night force, N. Y. Illness in the family of E. F. Stevens has caused his absence for several days.

Miss Beda L. Arnold, press operator, and Miss Georgie Southworth, of the Postal, Bridgeport, Conn., were present at the McAneeny Testimonial Benefit.

The French Cable Co's office at 1 Mercer street, is bringing in considerable business for the company in the dry-goods field. Mr. Becue, from 14th street office is manager. Mr. Griffin is now manager of the 14th street office.

America still depends upon foreign makers for a supply of commercial electrical measuring instruments.

F. K. Holtzinger, of Kansas City, Mo., has been appointed manager of the Des Moines, Ia., Postal office.

WESTERN UNION NOTES.—If there is one class of men who more than another owe to Manager Dealy a debt of gratitude it is those who during the few hours at their disposal through the day, occupy their time at college or in the practice of medicine, surgery or dentistry. His willingness to change to almost anything for the convenience of professional men their hours of labor here, proves conclusively that he has at heart the interest of every man trying to better himself whether it be in his own or some other profession. And it is gratifying to know that a majority of these men appreciate the fact. Dr. Hallock, for some years past at the Pittsburgh section, has had his hours changed from 5:30 to 1:30, to 8 P. M. till 3:30 A. M. The doctor is one of the boys, and, though somewhat out of practice, makes it exceedingly interesting for those who are at the other end of the line when he at 1:30 takes hold of the keys. A beautiful souvenir of the inauguration ball and reception to President Harrison at Washington was by G. W. Taylor sent to Mr. W. A. McAllister of the *World* office a few days since. That it is highly prized by the recipient is abundantly testified by the fact that it has been given a conspicuous place among his collections of *bric a brac* at home. "Conquered," isn't so bad for "conquered," but it will do for a Wheatstone bull. "Ship car A 660 and express," for "ship car apples, express" is on a Morse man. Mr. Jackson, who for many months past on the day force, has changed off with L. Kinsella of the regular night force. William Landy having recently joined the Order of Benedicts, congratulations are now in order. Your correspondent reiterates his and with a host of friends unites in the wish that the life of the couple may be one of unalloyed happiness. Mr. Becker of the 7:30 to 4 force has joined the 6 to 3 band. W. B. Richardson from Panama, and G. F. Jones have been added to the waiting list. The sympathy of all is extended to Peter Ritter, the elevator man whose eldest child, a most promising young girl of 14, died of heart disease a few days ago. The funeral, which occurred on the 26th, was attended by all who could conveniently absent themselves. The contribution of flowers from the boys and on the night force was a large and expensive one. John Baker, late of the Wheatstone department, has been appointed all night man at Jersey City. Mrs. Adams, Mrs. Burr, the Misses Stack, Kraemer, Gordon, Robertson, Patterson and Anderson, and Messrs Blanks, Skirrow, Finn, Young and Barnum have been added to the 7 to 4:30 force. J. McGowen has been transferred to the 8 to 5:30 force, vice T. Kinny 7:30 to 5. It is gratifying to note that Harry Heritage, mention of whose illness appeared in a previous issue of this paper, has so far recovered as to be once more among his old associates at the desk. Though by no means his former self, it is hoped he soon will be, thanks to the kindness of Assistant Manager Brennan, who is doing everything he possibly can to lighten his labors. Owing to the serious illness of his wife Chief Brannin, to the regret of all, has been compelled to absent himself considerably of late. We hope Mrs. Brannin's recovery may be speedy and a lasting one. William Leith has been transferred to Pittsburgh. Jacob P. Crans, a former employee on the day force and more recently proprietor of a steam laundry at Port Jervis, N. Y., has been made assistant superintendent of the Chautauqua, and Jamestown Railroad. Harry Siegfried of the 1 to 8 A. M. force has returned to duty after an absence of several weeks, due to the illness of his wife. Chief Operator Con. Meyer recently lost several days on account of illness. Dr. J. N. Faulkner, for a number of months past a waiting list man, whose principal duties have been discharged on the East between the hours of 5:30 P. M. and 1 o'clock A. M., has been made manager of the Hoboken, N. J., office. The hours of Miss Hall, one of the most popular traffic chiefs in the City Department, have been changed to 7:30 A. M. to 4:30 P. M. Geo. T. Spinner, managing editor of the *New York Times* was for years its most able correspondent at

Albany. A few nights since his journalistic friends gave him a dinner. While this was in process the representative at the Capitol of one of our leading German contemporaries was at the Western Union Telegraph office writing a dispatch to his paper. He had not quite finished it when from the abruptness with which he dropped his pen and skipped through the door the recollection of the dinner dawned upon him. By the time he had reached the banquet all he had written had been sent. Patiently the receiver, the operator and the printer waited for copy. It didn't come. Finally Western Chief McAllister sent this message: "To Shelley: What has become of the German. Have they shot a champagne cork through him and do we get his obituary in the unfinished special?" To this "W." at Albany replied: "Shelley and German are in the same boat and may both be shooting corks at one another. I think it safe, however, to sign the German special. Don't think he is in a safe condition to do it." A few nights ago on the second side of the Boston quad, Tv sent to Dv while Vv in Boston sent to Fv; on the second wire while Wv was receiving from Boston, Fv was also sending; Rv who sat next him was also sending. A larger number of V's between pay days has seldom, if ever, been seen. The strangest part of it lies in the fact that while the men were all side by side none of them had been regularly assigned to the wire.

PORT ARTHUR, C. P. R. NOTES.—H. A. Briggs, night chief, has been promoted to Swift Current. Harry is a prime favorite with all and the boys are much gratified to hear of his good fortune. Geo. B. Fraser replaces Mr. Briggs at Port Arthur. The O. R. T. on this division numbers about twenty members. As yet there is no lodge. Business is picking up and an increase of staff is sure to follow. Emigration is very heavy. The following transfers have been made on the Western division: W. Tulley, West Fort to Keewatin; J. H. Elliot, Keewatin to West Fort; J. H. Sproule, West Fort to Fort William; M. H. Simpson, Fort William to Carlstad; A. Dowker, Port Arthur to West Fort; W. Maguire West Fort to Savanne; Geo. Nash, Savanne to Seekirk; M. H. Simpson, Carlstad to Medicine Hat division, and G. Nash. Ostersund to Carlstad.

HELENA, MONT., N. P. R. R. NOTES.—There have been a few changes here since our last. J. E. Bell, from Oil City, Pa., first half night chief resigned March 1st. Mr. Bell is a very able man and filled the responsible position very satisfactorily; he has the good wishes of all the boys. E. S. Briner has been appointed last half night chief. Frank Schanz has gone with the W. U. up town. A. M. Dodge, late of Denver, works the split trick. B. A. Hummel resigned on the first of March, and leaves for the East where he goes in business for himself. We wish Barney much success as he deserves it, being a very hard worker and very pleasant personally. Assistant Superintendent Scobell has been visiting this point for the past few days.

POSTAL ELECTION OF OFFICERS.—At a meeting of the directors of the Postal Telegraph Cable Company March 5th, the following officers for the ensuing year were elected: Albert B. Chandler, president; George S. Coe, vice-president; Edward C. Platt, treasurer; George R. Williamson, secretary and auditor; Alfred W. Kent, attorney.

The postal telegraph system in England is operated at a continual loss. Last year the receipts were \$30,000 less than expenses, and there was, besides, the interest on eighty millions of investment to pay, making a total deficiency of over a million and a half. Since 1872 the net loss upon the telegraph department of the Post Office has been over \$16,500,000.

A resident of Rochester, N. Y., telegraphed as follows a few days ago: "John not hurt very badly. Both legs broken and one foot taken off." Just what serious injury would amount to, the grave only knows.

A RISING MAN.

Responding to a general inquiry as to who and what Mr. Fletcher, the new Boston manager of the Associated Press is, I take great pleasure in saying that he is a valuable man in whatsoever position he is placed, and as modest and unobtrusive as he is well equipped for the highest order of journalistic work. I rather suspect the old Bay State claims him as one of her sons, and there is an air about him suggesting Holyoke or Springfield, although I am not certain in what part of the State he originated. He is, however, one of those tireless, prize-taking men who "work their way through college." He achieved that miracle at Williams some ten years ago, and graduated far ahead of many men whose fathers were millionaires, and whose preparatory course had been carefully and expensively conducted, while Mr. Fletcher prepared himself, and was admitted by a scratch.

My own acquaintance with the gentleman began six years ago when I took charge of The United Press. When I came to size the concern up I found that its possessions consisted of some very shaky wires leased from the American Rapid Telegraph Company, an infinite variety of unpaid bills, and a pair of modern Napoleons in the persons of H. H. Fletcher, representing the New England States, and Henry M. Hunt, an enthusiastic and sleepless phenomenon who was supposed to stand guard on the watch towers at Chicago, but whose restless eye swept the whole country from the easternmost point of the Atlantic seaboard to the farthest western point where the eccentric Sutro looks from among his statuary upon the heaving ocean, which is Pacific only in name. These men—one located in the Boston *Globe* office, and the other in the Chicago *Herald* office—furnished four-fifths of all the news that The United Press handled. Where they got it was always a mystery to me. It was not unusual for Hunt to furnish news from Boston or from Barnstable, or for Fletcher to furnish it from Duluth or from San Francisco. It is no exaggeration to say that between them they covered the country, and often "scooped" the Associated Press papers on news which originated with that comprehensive news organization.

I recall that when the Newhall House at Milwaukee was burned The United Press papers in Pittsburg—the *Leader* and the *Telegraph*—had a long lead over the *Chronicle*, which was then the only Associated Press afternoon paper in the town. I knew Hunt did not get this lead for us, because he was at that moment in Philadelphia, where news is never heard of. It came out afterwards that the Boston papers had the story on the street earlier than it was printed elsewhere, and, quick as a flash, Fletcher put it on the wires of The United Press; one of the results being, as I have said, that the Associated Press story from Milwaukee, filed to us at Boston, was published in Pittsburg in our papers before it was printed in their own, while all over the country we were even up with our powerful competitor. Time, with its favoring gales, has wrought a revolution in United Press methods since then, and the raiders ride on their radies no more. The gnawing anxiety and omnipresent fear of "getting left" on some important happening constituted in those old days a continuous tragedy, which, happily, has ceased to be enacted. The news gathering machinery of the organization now operates smoothly in all parts of the world, and with acceptably perfect result. Prosperity has come to dwell in our household, and above us skies are blue. And yet, when those shifty, hap-hazard days of yore are recalled, only the fun, such of the make shifts as were comical, and an occasional glimpse of glory, are remembered. My predecessor once told me that, hearing at Hudnut's that murder had been done in Phoenix Park, he tore down to the office in a fever of apprehension to find one of the old guard, who has grown bald in the service of opposition press associations, calmly filing to all

points, a voluminous account of the great Irish tragedy, which he affectionately referred to as "a rip-roaring story from Dublin, which we are getting from Fletcher."

But it is as a writer of original matter that Mr. Fletcher excels. Given a few general facts and half a dozen details a picture is at once presented to his ingenious imagination. This picture reduces to a pen and ink sketch of marvelous beauty at the rate of some two thousand words per hour. His story of the loss of the steamer *City of Columbus*, off Gay Head, a few years ago, was not only one of the choicest reports ever furnished by a press association, but it was one of the most thrilling and picturesque pieces of newspaper writing that was ever printed on the American Continent.

A year and a half ago The United Press, the New England Associated Press, whose interests are identical, formed a copartnership, and Mr. Fletcher, rather than forego the pleasure of residing in Boston, declined an appointment with The United Press in this city and accepted a subordinate position in the office of the Associated Press in Boston. But his sincerity of purpose and his unquestioned ability, enterprise and energy were felt from the first; and now he has come to personify the stone which was laid to one side by the builders of the temple, but which finally became the head of the corner. On the first day of February he was appointed to succeed Mr. E. L. Beard, for fifteen years the Associated Press agent at Boston, and placing their affairs in his hands, his employers have probably done themselves a still greater honor than they have conferred upon Mr. Fletcher.

WALTER P. PHILLIPS.

THE JOHN ROE FUND.

A recent letter from Binghamton, N. Y., where John Roe lies sick in a hospital, says that his condition is not improved, and there is little or no hope of his recovery. Since our last issue the following subscriptions for his benefit have been received and forwarded to him: From Buffalo, N. Y., Geo. B. Dresser \$5; W. H. Stratton and J. W. Tillinghast \$2 each; F. M. Jones, F. Kitton, Sam Stewart, G. Sallaway, Nellie Fox, G. A. Schimot, Wm. C. Lewin, Frank L. Gardner, Geo. A. Bennett, A. C. Terry, T. A. Laide, J. Corcoran, W. H. Stevens, P. J. Haley, J. H. McNally, Jos. Anderson, H. E. Williamson, H. D. Reynolds, Ira C. Brown, \$1 each; Nellie M. Winch, B. Armitage, M. L. Kneeves, J. T. Inglesby, Beller V. Macgillis, V. H. Pitman, M. L. Classey, W. J. Quinn, A. H. Lockwood, W. M. Fyfe, E. E. Germond, H. H. Hunter, J. J. Larwood, F. E. Bacon, J. Lipman, L. G. Fitzpatrick, M. A. Dawson, C. F. Johnston, W. H. Newell, C. A. Thulman, L. Lepman, W. A. L. Hommendien, W. J. Hepburn, E. James, I. H. White, F. M. Hine, J. E. Craig, C. W. Comerford, J. Gill, D. J. Wills, H. J. Bargdorf, 50 cts. each; J. B. Henning and Wm. A. Moran 25 cts. each; From Albany N. Y.: M. L. Morgan, F. W. Sabold, E. J. Slattery, C. F. Bennett, A. M. Lennan and F. H. Howell \$2 each; C. E. Shelley, Chas. Bauer, J. H. Miller, P. Kelly, I. I. O'Connor, C. E. White, H. V. Shelley, Clarence Miller, C. C. King, and A. G. Cole \$1 each; T. J. Meade, C. J. Kaveny, J. C. Gauer, F. Howard Hagadorn,—Kerwin,—Mannis, A. G. Pettit, W. H. Forest, F. J. Nicholson, R. J. Joyce, J. F. McCabe, F. L. F., C. A. Starin, Geo. H. McCann, F. A. Hoag, P. D. Shultes, G. B. Fisher and F. Dornell 50 cts. each; Cash \$1.75; F. R. Kasper, Newburg N. Y. \$2; J. T. Gary, Troy, N. Y. \$2; M. H. Shea, Rome, N. Y. \$2; F. C. Peck and F. S. Howell, Utica, N. Y. \$2 each; G. V. Hobart, Jamestown, N. Y., \$2; C. A. Stone, H. J. Fellows, F. H. Oakes, S. B. Drake, J. E. Melhuist, P. H. Gallagher, K. A. Drake and H. A. Campbell, Jamestown, N. Y., 25 cts each; Cash from Camden N. J. 50 cts; Total \$47.25. Previously acknowledged \$285.40; Total to date \$373.65.

THEN AND NOW.

(By R. C. EDWARDS).

There will be many things connected with the old time telegraph that will look almost incredible to the operator of the present day. Though all, I say, will be recognized and vouched for by telegraphers of that day—beg pardon for the modern pronunciation of the word; I cannot bring myself down to this new order of things. When I know the word “telegraph,” is derived from two Greek words, “tele” (afar off) and “grapho” (to write), therefore I shall continue to say tele-grapher. Your writer commenced his career as a “knight of the key” in the fall of 1850 and has passed through the many vicissitudes that generally fall to the life of a telegrapher.

In those days, there were no such things as “Pony” or “Giant” sounders. And reading by ear was unknown; paper registers were used run by clock work and a weight, with a pointed lever, which indented the Morse characters in the paper. It will scarcely be believed by the younger operators of the present day, when I tell you, that even after operators became accustomed to the sound of the Morse characters, and could depend on the ear alone, and do faster work. It was not believed by the officials of the companies of that period, and a penalty was incurred of instant dismissal, if you were caught trying to take a message without letting your paper run.

It was a long time before it was seen that operators could depend on the ear alone and do faster work. Then it was that sounders were introduced, and the old paper registers relegated to the shelf, though they are still not quite extinct.

An incident occurred in the early part of the fifties on the line upon which I first touched a key, which shows that even in the early days of telegraphy, there were some smart people, who had discovered a means to prevent a telegraph line from working, and one that caused great loss to the company and much trouble to discover the cause.

The wire used in the early history of telegraphy was what was called “3 ply” or three strands of small wire twisted together. When it became necessary to make a splice, the ends were untwisted at each end, the ends drawn together and interlaced with each other, the strands then wrapped around, making a very long and ugly looking connection. The linemen of to-day would laugh at such a connection. The offices in these days, as a general thing closed at 10 P. M., and were open on Sundays for business only for an hour or two. Our line consisted of but one wire, running over the turnpike, extending from Petersburg, Va., to Portsmouth, Va., with offices at Cabin Point and Smithfield, Va. This being before the age of cables, and sub-marine telegraphy, all messages to and from Norfolk, Va., were delivered over the ferry by messengers, who were kept continually running to and fro to a receiving office in Norfolk.

On one Saturday night, our line was working well at the closing hour, 10 o'clock. On opening Sunday morning, the line was open south of Cabin Point. The operator there served also as lineman, as did the one at Smithfield.

They were ordered out to find the trouble; after going over the line and meeting about midway between the two stations they returned and reported the line O. K. and in good condition. Still the wire was open. They again went over the line, and returned and still reported O. K. Your writer then took a relay, and tested wire every few miles for battery, until I came to what looked from the ground like one of the usual long and ugly splices, and which was calculated to deceive the most experienced lineman. Upon taking the line down, it was found that some non-conducting substance had been inserted between the two ends of the wire; this was grooved and wrapped in such a manner as to resemble the usual connection, and on being cut out, of course the battery was found from both ends.

On the Saturday night that the line was interrupted,

the Portsmouth, Va., Bank was robbed of a large amount.

And there is no doubt that the burglars caused the interruption to facilitate their escape. The news of robbery was not known in Petersburg until Monday evening, when that day's mail arrived, the only telegraph line having been interrupted during the time.

This ugly looking connection is what was then termed a “Snakehead” (the first of its kind known at that time) was in my possession for a number of years, until finally it became mislaid and lost.

It would have been a valuable accession to the old curiosity case, on the ground floor of the W. U. building, as a relic of telegraphy in its infancy. I have often stood looking at a set of instruments contained in that case, that but few operators of the present day, have ever seen in operation, or know what they are. My mind has wandered back to the time, when night after night, I have sat alongside of a similar set, whilst it was repeating the manipulation of some of the crack senders of Washington, of that day. I refer to the open circuit automatic repeater, of Chas. S. Bulkley, who received from Elam Alexander, President of the Washington and New Orleans Telegraph Co., the sum of \$10,000 for the same, it being the first automatic repeater ever used. Many of the old timers of to-day, no doubt can recall instances, when they have been sorely tempted to become dishonest, by divulging some important matter that had passed through their hands. In this connection my memory takes me back to the time when I was sent to Cheraw, S. C., to instruct some one in the mysteries of the wires so as to take charge of that office; it was during the Crimean war; there were but few steamers plying between the United States, and Europe, and these making but very irregular trips, consuming some twelve to fifteen days in the passage.

On the arrival of a steamer at the port of New York, it would immediately be heralded to all important points in the South.

Cheraw was one of the principal cotton marts, in the South, and all the Charleston cotton men had their factories stationed at this place.

I would post on the outside of my little one story brick building, with a portico and three pillars that was formerly used as a lawyer's office, the arrival of such a steamer with news from Europe so many days later. Cotton was fluctuating very rapidly and widely, one way or the other at that time abroad. These fluctuations controlled the market in this country. There were a large number of factors in Cheraw who could not hear from the parent house at Charleston under two or three hours, the line being occupied with through business. There would also be from 100 to 150 loads of cotton on the streets brought in by farmers to sell to these factors, and it was very important to know the condition of the foreign market. As soon as it became known that a steamer had arrived, my office was besieged by both factors and farmers, and I tell you it was as much as I could do to withstand the many temptations that beset me from both sides. Offers of all kinds were made me to give some sign whether cotton had gone down or up abroad. This information I always had, hearing the steamer news passing through my office, giving the quotations and state of the markets.

But, I can never forget one incident and an amusing one. One day, an old farmer came into the office accompanied by a very prepossessing young miss. He came up to the railing and called me to him, and whispered in my ear, “young man, if you will tell me what those furriners are doing with cotton over thar, I will let you have my gal Sal,” pointing in the direction of the young miss, who stood blushing scarlet. It is impossible for me to depict my astonishment at such a proposition, and upon glancing over to Miss Sallie, I was almost gone; but upon recovering myself, I thought of the menace that was continually held over

operators of that time. That is imprisonment for divulging anything that passed over the lines of a private nature. Whether this was the law and appeared upon the statute books, I cannot say. We never hear of it now, but the menace by the company had its effect, nevertheless.

I afterwards learned that this old man was one of the wealthiest cotton farmers in the state, and Miss Sallie, the youngest of three daughters. This was the greatest temptation I ever experienced, and one of my many lost opportunities.

SIEMENS'S RECORDING APPARATUS FOR COMPACT MORSE WRITING (PATENT).

Electrical Review, London.

The alphabet formed by the combination of two elementary signs, the "dot" and the "dash," which is used in Morse telegraph instruments of the recording type, is almost universally written in a single longitudinal line on the paper strip.

This method of writing, however, possesses the great disadvantage that the diameter of the writing disc cannot be made very small, as it would not then be certain to dip into the ink contained in the trough. A disc of comparatively large diameter, although clean in its working, is unsuitable for producing a short and sharp sign on the paper strip, particularly when the strip is moving slowly, as the tangential contact between the writing disc and the paper produces an unnecessarily long sign with a large disc, and hence the tendency to "tailing" is increased. It is for these reasons that the "dots" of the Morse alphabet can in general practice only be produced as short dashes, so that in order to prevent misapprehension, the "dashes" require to be made longer than would be necessary if distinct dots could be produced. The writing is thus spread over far more paper than is desirable, causing not only a waste of paper but making the reading more difficult.

SIEMENS BROTHERS AND CO



Various suggestions have from time to time been made with the object of remedying this defect, but owing either to complication in the methods of transmission or of reception, none of these proposals have been adopted to any considerable extent.

The "compact writing" has been designed to meet the demand for improvements in the old system of Morse writing. Its elementary signs consist of lines at right angles to the edge of the paper strip, and of equal width but of different length (measured in the direction in which the paper travels), a short, or thin line representing a "dot," and a longer, or thicker, line a "dash."

We illustrate the old and new system of writing, and shows the relative difference in space occupied by them. The length of paper used for the compact writing is about half that used for the old writing, while a more readable message is produced. The amount of paper strip to be stored away for possible future reference thus becomes considerably less—and administrative advantage not to be underrated when the present enormous increase in telegraphic communication is taken into account.

The inking arrangement by which these compact signs are produced, consists of a marking roller of small diameter and of a width equal to that of the marks to be produced, mounted with its axes at right angles to the edge of the paper strip, and rotated by its frictional contact with the inking disc. This inking disc is carried on a spindle, resting in a bearing on the end of the armature lever, and is geared with the clockwork of the instrument by which it is revolved. It is of slightly greater width than the marking roller, and has a finely grooved periphery for more effectually taking up the ink.

NEW ELECTRICAL PUBLICATIONS.

ECONOMIC VALUE OF ELECTRIC LIGHT AND POWER.—A. R. Foote, Cincinnati, Ohio; published by R. Clarke & Co., Cincinnati, O. To assist those interested in obtaining legislation on electrical service; to assist those about concerning themselves in Electric Central stations, and to assist the manufacturer to open new fields for the uses of his apparatus are aims which have been faithfully carried out by Mr. Foote in his new book. Freed from the numerous misunderstanding technicalities, the questions are placed before the ordinary reader in a manner calculated to arrest his attention and to hold it marked on the treatment which has been bestowed on the book. The facts and figures given are certainly both interesting and valuable for future reference and comparison, and before one has gone far into the work, it will become apparent that that dryness which usually pervades electrical works has in this instance been entirely eliminated and the reader will not find himself tired and perplexed. Mr. Foote is truly deserving of great credit for the simple manner with which the various subjects are treated.

In an appendix, Dr. Allan V. Garrett skilfully explains the electrical and mechanical terms. From this appendix almost arises a new sense of understanding and perception, and from it one sees a clearer path to the solution of the problems.

The book has our heartiest and most cordial endorsement; the capitalist, the manufacturer, the party even in the least way connected with electric light and power enterprises, all will find Mr. A. R. Foote's book something new in this line and something just desired.

DYNAMO TENDERS' HAND-BOOK.—Each company manufacturing electric light apparatus, furnishes special directions for its care and management, and hence a general knowledge of the principles governing the construction and operation of electric light installations has been obtainable only by a practical observation of the features of each system, or by study of books, so technical in character as to be beyond the comprehension of those not possessing an academical or collegiate education; therefore in the preparation of *Dynamo Tenders' Hand-Book*, the author Mr. F. B. Badt has striven to lay down as the results of an extended experience, general rules for the care and operation of electric light installations; and discarding entirely the use of technical phraseology, and scientific terms, and formulæ, has endeavored to confine his use of words to those very plain, simple and elementary in character. To dynamo tenders, engineers, linemen, and others who desire to familiarize themselves with the principles underlying the care and operation of electric light installations, this hand-book is offered with the hope that the author's intentions have been carried out to the full.

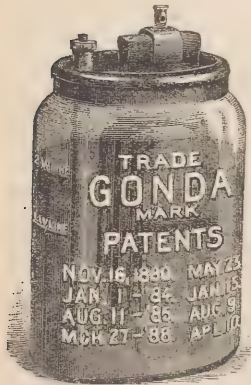
Among its contents are embraced chapters on the arrangement of power, dynamo electric machines, diseases of dynamos, lamps, instruments, circuit or leads, accumulators, safety regulations. There are also a table of electric light conductors, lamp lighting schedule, moonlight system, and illustrations of construction tools. Price \$1.00, for sale by J. B. Taltavall, 5 Dey street, N. Y.

COLUMBUS, OHIO, NOTES.—M. J. Keenan of the Pan Handle general office, was married on February 26th, to Miss Mamie Faber of this city. After an extended visit East, they have settled down to enjoy life. Mr. Keenan has been with the Penna Co. for a number of years. Mr. H. E. Carroll also of Pan Handle, general office, Columbus, was married in Cincinnati, on March 6th, to Miss Carrie Jones, of that city. They have gone to housekeeping here and will make Columbus their future home. Mr. Carroll is well known at Cincinnati, where he was employed both at B. and O. and W. U. Companies, previous to his coming here.

WANTED—To start a District Messenger and Night Watch Signal Service. Any information where such a system is needed will greatly oblige. Address, "DISTRICT MESSENGER," care ELECTRIC AGE, 5 Dey street, New York.

Mr. T. W. Parks, of Tyler, Texas, has been appointed superintendent of telegraph of the I. & G. W. R. R. His headquarters will be at Tyler.

Do Not Be Deceived.
CUT OUT THIS CARD AND KEEP IT AS A GUIDE WHEN BUYING.



"GONDA" BATTERY COMPLETE.



"AXO" BATTERY COMPLETE with Jar adapted for Sealing.



GENUINE "GONDA POROUS CUP" BATTERY COMPLETE.

THESE ALONE ARE THE GENUINE BATTERIES.

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Twenty-second Year.

For Particulars, Address T. E. FLEMING, Secretary,
Box 3175, New York.

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INITIATION FEE, \$1.00. DUES, 50c per Month. INSURANCE, \$600.00.
In Payments of \$50.00 per Month for One Year.

WM. J. DEALY, Secretary,

(Room 58.)

195 Broadway, New York.

ALBERT H. DAKIN,
MANUFACTURER OF THE
EAGLE BRAND OF MANIFOLD

AND

CARBON PAPERS,

FOR

STYLUS AND MACHINE WRITING,
60 Barclay Street,
NEW YORK.

PRICES ON APPLICATION.

**Telegraphers' Mutual Aid and
Literary Association of Boston,**
Initiation Fee, \$2.00.

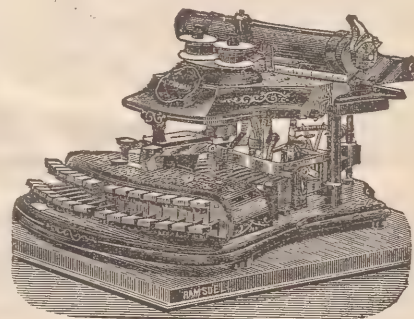
Dues, 25 cents per Month; Sick Benefit, \$7.00 per week
Death Benefit, \$50.00.

Qualifications for Membership:—Good Health, employment in Electrical Pursuits, 18 years of age, residence in vicinity of Boston.

ROBERT E. TOBIN, President,
GEO. H. WINSTON, Secretary,
177 Devonshire Street, Boston.

TELEGRAPHERS' AID SOCIETY.—G. Irving, President, J. M. Moffatt, Secretary, address 195 Broadway. Dues 50 cents per month; pays \$8 per week, and \$100 at death. Qualifications: Good health, employment in electrical pursuits, and residence in vicinity of New York. Applications solicited.

The New Model Crandall A PERFECT TYPE-WRITER.



PRICE, \$75.00.

BEST FOR TELEGRAPHERS!

This machine meets the requirements of Telegraph Operators better than any other Type Writer on the market. It is speedy, almost **Noiseless**, has perfect alignment and **writing in plain sight**, even to the last letter, thus allowing the operator to correct the "bulls" of a "blind" sender without the delay of shifting the carriage. **It is the cheapest** standard writing machine in the world. Send for circulars and illustrated catalogues to the

IRELAND BENEDICT CO., (Limited),

Sole Agents, Binghamton, N. Y.

NEW YORK OFFICE,

B. G. GRANVILLE, MANAGER.

157 BROADWAY,

FOUNTAIN AND STYLO PENS.

Fountain Pens, \$1.50 and upwards.



The FOUNTAIN PEN consists of a highly finished hard rubber holder, fitted with superior 14-kt. GOLD PEN to suit any writer.
"INDEPENDENT" STYLOGRAPHIC PEN. PRICE, \$1.00 AND UPWARD. EVERY PEN WARRANTED.
Writes as smoothly as a Lead Pencil and is ALWAYS READY FOR USE.

J. UELLRICH & CO., 106 and 108 Liberty St., New York.

RAPID PENMEN.

WHY TELEGRAPH OPERATORS ARE THE FASTEST WRITERS
IN THE WORLD.

Telegraph operators, taken together, are probably the fastest writers of any class of men who use the pen. It is also true that the telegraph operators of America are much faster and in every way better, than those of England, or any of the Continental countries. This is probably due to the fact that in England the telegraph is conducted by the Government, and there is little competition or inducement of any kind to lead the operators to improve or excel.

In America it is just the reverse. The salary is in accordance with the work of the employe, and a first-class man need never be without work at good pay.

Before an operator can secure a berth in any first-class office, he must be able to "take" on a test at an average rate of sending and make a clean "copy" of the message. A single glance at a "copy" is sufficient to inform the manager whether the applicant is an old operator or not, for there is a peculiarity about the penmanship of telegraphers that is unmistakable. From necessity there is little flourish in the writing, and the pen is pulled rather than pushed over the paper, and is very seldom lifted from the page. That accounts for the frequency which different words in messages are connected by hair lines. Very often an entire line is written without the pen leaving the paper.

"I'll tell you how it is that telegraphers become fast penmen" said an expert operator. "It is not because they are any quicker in moving their fingers than any other penmen, but because they must keep up with the instrument from which they are receiving. Operators will not "break" a sender if they can possibly help it, and they keep their pens moving as rapidly as possible in order to avoid breaking. Very few telegraphers can follow more than five words behind the instrument, and the majority cannot drop three words and not make a "bull" of it. Since they must keep up they do their best and the result is they improve their speed. Another fact: operators cannot write nearly as fast when they are not receiving as when they are following the instrument. There are many telegraphers who can make a legible copy at the rate of forty-five or even forty-eight words a minute while receiving, who could not put forty words on paper at other times.

"An operator who used to work in Philadelphia, made a wager of an oyster supper for a dozen men several years ago with a reporter, that he could write legibly five more words a minute for three minutes than the reporter, who was a fast penman. The reporter succeeded in getting down 114 words in three minutes, a friend reading to him from a newspaper article; the average was just 38 words. The operator then invited the party to a telegraph office and got one of the fast men to send for him, taken the same article from which the reporter had written. The operator copied forty-six words the first minute, forty-four the second and forty-five the third, winning with ease. He then tried to do the same, having a man read to him, averaging forty words.

"During the great Boston fire, an operator in New York received 248 messages between 7 o'clock and noon, and sent 216 during the afternoon of the same day. The messages, including the addresses, signatures, date lines and 'checks' averaged thirty words; thus, during the five hours he was wielding his pen, he copied over 7,500 words or 1,500 words an hour. There are many operators who could beat even that if they were called upon to do it. These men would probably not break the sender once in an hour; if the latter was a good operator, and, when through, it is doubtful if they would remember a word they had penned. The operator is simply a machine; the sound of the instrument enters his ears and runs out his arm at the nib of his pen to the paper. The writing becomes almost involuntary.

"While there is a great similarity in the penmanship of telegraphers there is to good operators, as much difference

in 'sending' as there is in the voice; they can distinguish the sender as plainly by the manner he uses the 'key' a hundred miles distant, as they could an intimate friend speaking in the next room."

THE FIRST MORSE OPERATOR.—In the biographical sketch of Mr. A. M. Mackay, superintendent of the Anglo American Cables, Heart's Content, N. F., which appeared in our last issue, we made the statement that that gentleman was the first telegraph operator in the Dominion to read by sound. We had the pleasure of a personal call from Mr. Mackay last week, and he is of the belief, that he really was the first telegraph operator in America to read and copy by sound. He did this as early as June, 1850. At that time there were many operators, who could read by sound, but none of them had ever attempted to copy the same. Unless some one who has not been heard from in regard to the matter can antedate this statement, Mr. Mackay is entitled to all the credit he claims. Among that gentleman's associates, thirty-eight years ago, were W. B. Clum, now of 187 Broadway, New York.; R. B. Toye, now of the G. N. W., Toronto, and H. H. Ward, cashier of the W. U. main office, New York. Mr. Mackay is now sojourning in New York for the benefit of his health.

THE NINTH ANNUAL MEETING OF THE NEW
YORK TELEGRAPHERS' AID SOCIETY.

The New York Telegraphers' Aid Society held its annual meeting in room 55, Western Union Building, March 13th, 1889. A large number of members were present including many ladies. After listening to the various reports showing the transactions of the society during the past fiscal year, and passing the amendment authorizing the establishment of a Relief Committee to collect and disburse contributions for the benefit of worthy telegraphers or their families in time of sickness or death, the following officers and members of standing committees were unanimously re-elected.

President, Gardner Irving.
Vice-President, E. F. Cummings.
Secretary, J. M. Moffatt.
Treasurer, F. W. Baldwin.

EXECUTIVE COMMITTEE.

George W. Logan, John Brant, W. H. Jackson,
Harry I. Jolley, F. D. Murphy, Miss K. E. Cummings.
Mrs. Crans.

AUDITING COMMITTEE.

E. F. Stevens, D. C. Donohue, Edwin Dean.

The membership of the society is 534, a gain of 105 members during the year. The fund is now \$2,015.19 a gain of \$36.22.

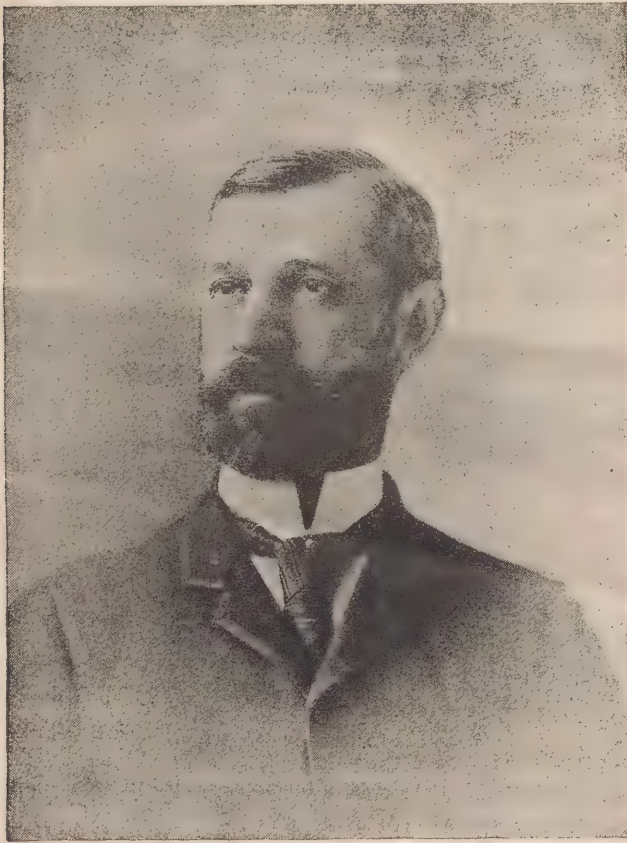
The total receipts for year were.....	\$2,921 40
" " expenditure " "	\$2,885 18
" number of sick cases.....	100
" " " deaths.....	4
" " " weeks sickness.....	289
Amount paid in benefits.....	\$2,708 59
The current expenses.....	\$ 176 59

The Western Union Company is using the Wheatstone system with more or less success. In fact it might be stated without fear of contradiction that if the company would put first class Morse operators at the "punching" machines at all points, the result would be more satisfactory and the system would not cause so many annoyances both to the patrons and the employes. It is not a system that can be manned by children as the impression seems to prevail in certain localities.

P. J. CASEY.

Mr. Casey has been aptly described by George Alfred Townsend, in his "Notes about Town," as a "veteran and thoroughly representative telegrapher," and he might have added that there was probably no one in the telegraph service occupying a similar position, better or more favorably known both in and out of the profession than he.

P. J. Casey was born in Ireland, March 19th, 1847, and was brought to this country by his parents in the following year. He was educated in the Schools of the Christian Brothers in this city, and entered the service of the American Tel. Co., as messenger in the Metropolitan Hotel office in 1861, of which Mr. J. K. Calvert, the well-known printing operator of the main office was the manager. The delivery district covered by the Metropolitan Hotel office in those days embraced the territory between Canal and 14th streets, North and East rivers. Half a dozen wires then sufficed to do all the city business, while there are now some two hun-



dred wires required in addition to an extensive tube system and all taxed to their utmost capacity.

In 1863 young Casey was transferred to the main office at 145 Broadway, of which M. S. Roberts was manager, and was assigned to duty as office boy. In the following year he bloomed into an operator and worked a register on one of the city wires. His ambition however, was to read by sound and before a great while he became an expert sound operator. He was transferred to the superintendent's office in 1870 as relief operator and manager, and in this capacity, worked in nearly all the principal branch offices, acquiring valuable experience which contributed largely toward making him the model manager which he has since come to be regarded.

In 1876 when the Western Union Co. occupied the building at 12 West 23d street in connection with the Adams Express Co., Mr. Casey was placed in charge of the Western Union interests there and remained in that position until the new building erected by the W. U. Co., at the corner of

23d street and Fifth avenue was completed, in 1883, when he was appointed manager of that very important office, which position he still holds. This is the principal uptown office of the company and is the only office in the city, excepting that in the Western Union building, from which money transfers are forwarded and paid out. It is also the terminus of the tube system, and will be the relaying office for the system when the tubes are extended further up and across town. Mr. Casey's assignment to so responsible a charge was just recognition of his long and faithful service and eminent fitness for the place.

In 1870 Mr. Casey was appointed manager of the West End Hotel office at Long Branch and represented the Western Union's interests at that section of the branch every summer thereafter until 1883 when he was placed in charge of all the offices of the company at Long Branch.

Early in the seventies, when telegraph competition was most active, the Atlantic and Pacific Company by the payment of an expensive rental managed to secure the telegraph office in the West End hotel, and as there was no other place available in the vicinity for a telegraph office, "Camp lighting" was brought into existence. This was a large picturesque tent erected on the bluff, opposite the hotel, where Manager Casey and his force "enlisted for the war" were installed. The contest from the start, however, was an unequal one as Mr. Casey by his wide acquaintance, pleasant and courteous manners, backed by superior facilities, succeeded in taking the business with him and the A. & P. finding the venture was not a paying one were glad to abandon the field, when he was again restored to his old quarters in the hotel.

When President Garfield was taken to Long Branch in the summer of 1881, dying from the bullet of an assassin, the most intense excitement prevailed throughout every section of the country. The heart of this great nation throbbed and pulsed between hope and fear and the bulletin boards in every city and town in the land were eagerly sought and breathlessly scanned for the latest information concerning his condition. The volume of business, largely press matter, handled at the West End office during this trying period was simply incalculable, but Manager Casey rose to the occasion. His force was augmented by at least a score of first class operators; direct wires were worked to all the principal points and his arrangements for the press were admirable. The promptness and accuracy with which this immense business was handled is the highest tribute that can be paid to his intelligent direction. The press of New York and elsewhere complimented him in the most gratifying manner on the excellent facilities afforded and the prompt and satisfactory manner in which their reports were received.

In the spring of 1883, Mr. Casey organized the Long Branch District Telephone and Messenger Company of which he is secretary and treasurer. He felt that such service was needed at the Branch, and would be largely patronized, and the remarkable success of the company amply justified his expectations. He was probably the first to introduce successfully the use of bicycles in connection with the district message service. The company own a couple of dozen first class bicycles and the messengers present a pleasing sight in their bright uniforms, mounted on their wheels, speeding along Ocean avenue and the other fine roads for which the Branch is famous. There is an extensive night patrol established by the company for the purpose of guarding the cottages of its subscribers, which has rendered good service in preventing robberies, capturing burglars, and extinguishing fires. Although in operation only four months in the year, yet there is perhaps no district company in the country that yields so handsome a return on the capital invested.

There is, probably, no one better known to the summer residents and visitors at Long Branch than P. J. Casey, and he has received many evidences of their esteem and appre-

ciation; not among the least of which was a beautiful gold watch presented to him by Mr. George W. Childs. His 19 years service at the Branch during the summer season and 13 years at 23d street and Fifth avenue, have given him a wide acquaintance not enjoyed by many. When the formation of the Electric Subway Commission was authorized by the Legislature, his friends knowing that he was peculiarly adapted for the work urged him for a Commissionership. They not only got up a lengthy petition in his favor, but many of them made it their business to call upon Mayor Grace and personally present his claims.

In this connection we may mention the names of George W. Childs, Gen'l Geo. B. McClellan, Gen'l Alex. S. Webb, Rev. Howard Crosby, Rev. Thos. H. Ducey, John Hoey, Ex-Gov. Hoffman, Wilson G. Hunt, T. Fred. Gunther, W. and J. Sloane and Park and Tilford—names selected at random from the scores of prominent people who were active in his behalf. The Mayor sent for Mr. Casey and assured him that with such backing he would unhesitatingly nominate him for the position were it not for his connection with the Western Union Company, but that he did not deem it politic to appoint on the commission an employe of one of the companies interested.

Mr. Casey possesses a bright genial disposition and has the happy faculty of making and retaining friends. He has good natural ability, a singularly clear judgment and what Joshua Reynolds called genius, namely: the capacity for hard work. If his past record be any indication of his future he will achieve in an eminent degree what we are all striving to attain—success.

BORN—To Mr. and Mrs. F. G. Flint of New York, on March 10, 1889, a daughter.

BORN—To Mr. and Mrs. C. E. Hogshead, at Nashville, Tenn., March 3, a daughter.

BORN—To Mr. and Mrs. Oscar Foster, at Nashville, Tenn., February 25, a son.

BORN—To Mr. and Mrs. J. P. Clollery, of New York, March 11, a son.

BORN.—To Mr. and Mrs. C. W. Hanson, on March 15th, a boy.

DIED.—William Frank O'Brien, of The United Press, Washington, D. C., a brilliant and widely known journalist, died in that city March, 12.

DIED.—We much regret to announce the sad death of Mr. Joseph Gott on the 16th of March at Winnipeg, Manitoba, resulting from the kick of a horse. Mr. Gott was an old superintendent and a brother of John Gott the well-known cable electrician. He was until some two years ago in the service of the Commercial Cable Co. at Waterville, Ireland. He resigned his position in that Company and bought a farm in Manitoba, on which we believe he was making good progress. The poor fellow never spoke after receiving the injury. He was a man of fine appearance, a genial companion and much respected.

DIED.—Mr. Frank Shaw, well known in the telephone world as the inventor of the "Law" system for telephone exchanges, died at his residence in New York, 23d inst., at the age of 47 years. Mr. Shaw was born and passed the early years of his life on a farm in West Virginia where his father still lives.

His telegraphic career was begun in the service of the Construction Department of the U. S. Military Telegraph Corps, at the headquarters of the Army of the Potomac, where, by energy and strict attention to duty, he soon gained the confidence of his superior officers.

At the close of the war Mr. Shaw entered the service of the American Telegraph Co.; in 1867 that of the Western Union Telegraph Co., in New York; and afterwards that of the Gold and Stock Telegraph Co. He acceptably filled

for several years the position of inspector of the New York fire department, and in 1871 began the erection of private lines in this city, which venture proved successful. He was the organizer of the exchange system, for the establishment of which among lawyers the Law Telephone Company had that year been incorporated.

WASHINGTON NOTES.—Inauguration and the rush and excitement accompanying it are things of the past. The work accomplished during the first five days in this office surpasses any former effort. There were in round numbers 1,468,583 words of special handled; together with 126,427 messages. On the fourth, which was the heaviest day, with a force not exceeding eighty-five men, there were handled 614,982 words of special, and 29,194 messages; an average per man of about six hundred messages for the day. Notwithstanding this large amount of work and the exciting surroundings, everything moved like clock work. Never was there better discipline displayed on battle field, than on this occasion. Mr. W. H. Young and R. W. Bender, night and day chiefs, were ably assisted by Messrs. J. M. Field, L. M. Smith, J. W. Collins, W. B. Harvey cutter and Frank Kane. Every desk in the office was occupied, Messrs. E. Cadmus, G. L. Divin, E. L. Bugbee and T. E. Madden handled the board in a masterly manner. The telegraph played a very important part in the inaugural ceremonies. The line of march was from the east side of the capitol to the reviewing stand, which is about five miles distance. There were placed at intervals telegraph offices, with an operator in charge. Each operator had an army officer, and a member of the signal corps to aid him. As the line passed each division and brigade, was telegraphed to Colonel Harrington at the starting point, and to General Hastings at the reviewing stand. The chief marshal was promptly notified of any break in the line and its cause. The following gentlemen were in charge of these offices: J. W. Collins, starting point, E. A. Spear First and Pa. ave; E. W. Thompson Sixth and Pa. ave; Eugene Cadmus Eleventh and Pa. ave; Tom O'Brien Fifteenth and Pa. ave; J. A. Ashe Department of Justice; E. McCristal, Executive Mansion; A. W. Frazier Twenty-second and Pa. ave; Lewis Klotz Seventeenth and K. streets; H. D. Robinson, reviewing stand, Tenth and K; Mr. R. W. Bender had charge of the ball room office with the following force; T. J. O'Brien, P. E. Brown, J. H. Crane, Frank Kane, L. S. Fisher, J. Breen, Bert King, J. W. Bender, S. A. Gallatin, A. C. Bowser, H. W. Dowling, and E. L. Bugbee. Clerks, C. C. Mathersead, and F. H. Pfaff. There were extra men from New York, Philadelphia, and Baltimore, about thirty in all.

TRANSFERS.—J. S. Knapp, Hathway, Mont., to North East, Pa.; Robert Fenstermaker, White Haven, Pa., to Allentown, Pa.; N. B. Booth, Detroit, Mich., to Fort Worth, Tex.; A. T. Harrison, Boston, to Worcester, Mass., for the W. U.; Wm. Shone, Aiken, Md., to Philadelphia; M. W. Raiford, Quincy, to Jacksonville, Fla.; H. A. Habel, Camas, Idaho, to Cheyenne, Wyo.; H. C. Allison, Memphis, to Birmingham, Ala.

KANSAS CITY NOTES.—The late arrivals are Mr. Peache, from Chicago, and Mr. Mitchell, from Florence. Miss Milby has been appointed assistant chief of the Wheatstone. Business has picked up wonderfully at both W. U. and Pacific Mutual offices. Mr. Coady and Mr. Dunn, who have been on the sick list, have returned to their old places. Bert Manchester, an old-timer, is visiting friends in this city. Miss Myercourt has been transferred to Kansas City. The AGE, which is so well liked in this office, should receive more patronage than it is receiving at present, although every operator in the city reads it.

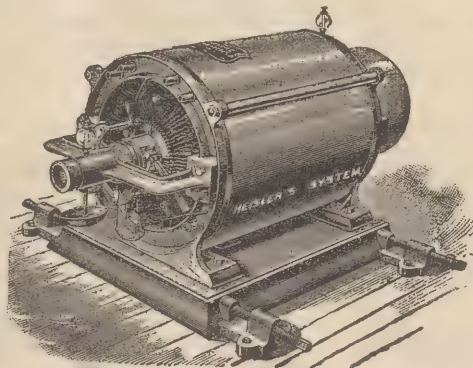
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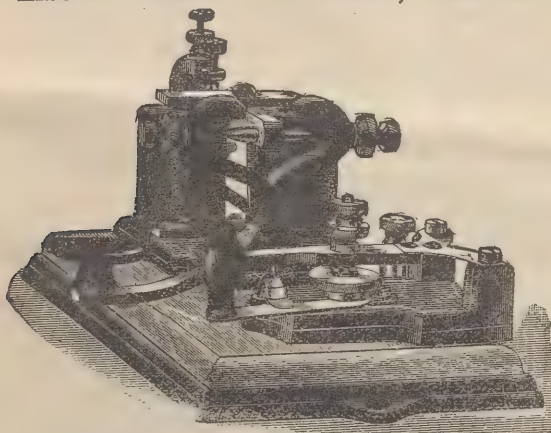
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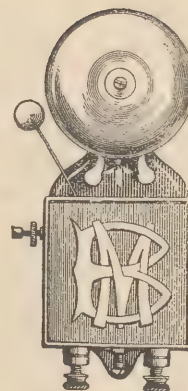
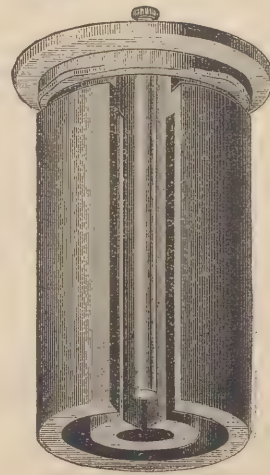
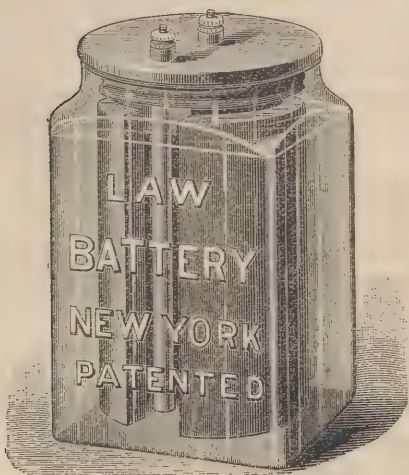
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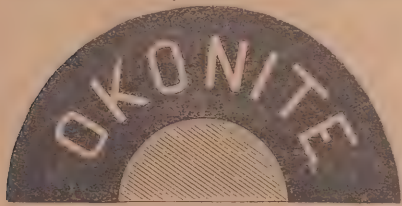
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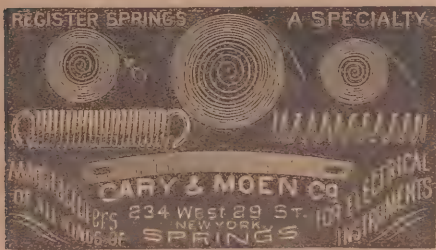
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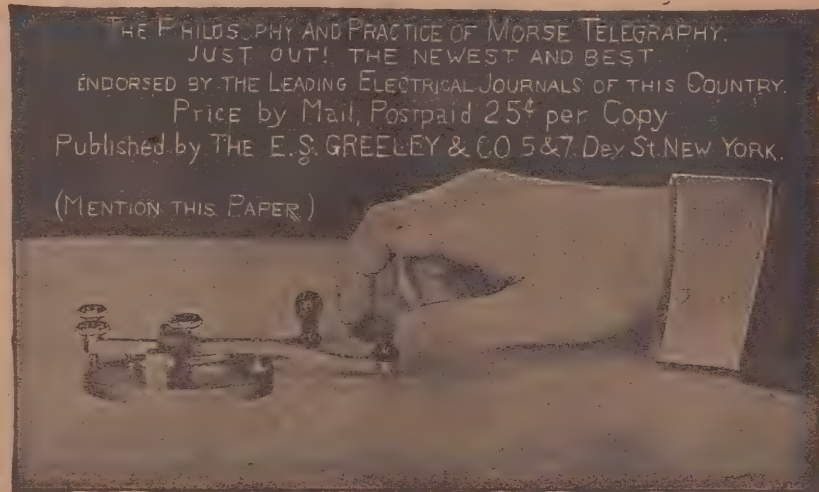
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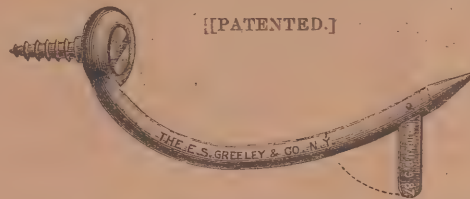


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The truth (referring to the true position of the telegraphers' hand in the act of "sending") exposed by a lightning wink of the instantaneous camera, and permanently fixed for our deliberate inspection by the science of photography, dawns upon the craft intellect accompanied with something of the amazement that startled the artistic world when the elaborate anatomical studies by Rosa Bonheur of the horse in the act of running, were delivered over to universal ridicule by the subtleties of the same agent, instantaneous photography.—*The Electrical Review*, March 24th, '88.

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J. H. BUNNELL & CO'S STEEL LEVER SOLID TRUNNION KEY.

Telegraphers cannot fail to have noticed that upon the introduction of the BUNNELL STEEL LEVER KEY four years since, it at once achieved a vast popularity, such as never before attached to any specialty in Telegraph Instruments, and that this popularity has continually increased, and is still increasing.

It will also be noticed by Telegraphers, that since the STEEL LEVER KEY was introduced, a brood of "improved" keys has been hatched and put forward from various sources from time to time each one made to look as much like the



STEEL LEVER KEY as possible, or made with some kind of a "steel lever," or "patent lever," and in every case claiming all the merits possible and impossible that language could describe.

Most of these "improved keys" have become exterminated by the force of their own worthlessness. Years of practical test in the use of THOUSANDS of BUNNELL STEEL LEVER KEYS throughout America demonstrates their perfection and popularity. BE NOT DECEIVED BY THE ABSURD IMITATIONS.

THE BUNNELL STEEL LEVER KEY is more durable, and in every respect better than any other for rapid and perfect sending for the following reasons:

The Lever is only one-half the weight of the ordinary brass lever as generally made. The entire Lever and Trunnions together being made of but one piece of fine wrought steel, the common defect of loose trunnions is avoided, the strength of a heavy brass lever is obtained with much less weight of metal, and, by the perfect bearing which the solid trunnion gives, together with the use of hardened platina points, sticking is absolutely prevented.

The size and proportions are such as to make it the most perfect operating key possible to obtain, either for the hand of the skilled and rapid expert, or the beginner.

Price, \$2.25. Finely Finished, and Lever Nickel Plated.

LIBERAL DISCOUNT ON ORDERS FOR COMPANY SUPPLIES.

Steel Lever key sent by mail, post-paid to any part of the U. S. or Canada on receipt of the above price, by Registered Letter or Money Order.

Until further notice we will exchange our New Steel Lever Keys for old keys for a cash difference of \$1.50 each. This price applies to any number of Keys, no matter in what condition the old ones may be. They must be delivered to us in packages plainly marked **KEYS** with all charges prepaid.

Where exchanges of not less than Six Keys at one time are desired for Keys which are already in use and which cannot be spared until the new ones arrive, we will, upon receipt of order, send on the new ones and the old ones may be sent to us afterwards. Cash should accompany all orders except from Superintendents and from Purchasing Agents of well known companies.

SEND FOR OUR **NEW CATALOGUE**: No. 10 OF MARCH, 1889.

J. H. BUNNELL & CO.,

106 and 108 Liberty Street,

NEW YORK.

IT STANDS AT THE HEAD

ONE touch of the finger should produce any character used in a Writing Machine. Instruments that fail to accomplish this are deficient and do not fully meet the necessity that brought them forth. These facts are self-evident.

The No. 2 Caligraph is the only writing machine that fully economizes time and labor, and economy of time and labor is the best ground we have for soliciting trade.

Granting that we are in the front in this, we can show that our late improved machines excel in mechanical merit, durability and beauty of work. 10,000 Caligraphs are in daily use.

We publish 400 letters from prominent men and firms which are convincing.

THE COMMERCIAL GAZETTE.

C. G. Muller, Agent Caligraph, Cincinnati, O.

Cincinnati, October 5th, 1885.

Sir:—About three months since, I commenced to use the Caligraph with a view to receiving special despatches from the wires, instead of by the old method by the pen. In about three weeks I was able, by diligent practice, to write from thirty-five to forty words per minute. Since then I have been using the machine with success receiving from five to six thousand words per night upon it. We have found the machine of such value in the work as to be able to receive the despatches by code, or abbreviation, thus increasing this capacity of the wire, though the matter is written out in full upon the Caligraph. We make an average speed of fifty words per minute by this method, and expect to do still better work with it.

The machine is a No. 2 and must be a marvel of durability, as it has never been out of order under this continuous and heavy strain, and is always ready for use.

Very truly yours, Signed; Frank B. Ross, Opr. Commercial Gazette.

C. G. Muller, Esq., Agent Caligraph, Cincinnati, O.

October 5th, 1885.

above statement of our operator.

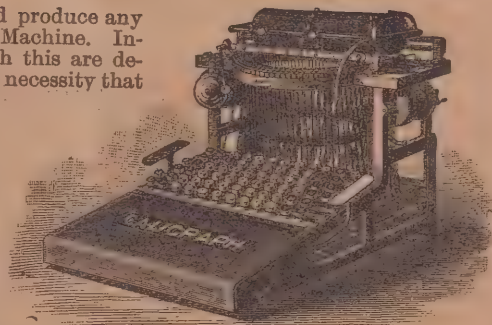
Dear Sir:—I cheerfully certify to the correctness of the Signed; Chas. E. Thorp, Telegraph Editor C. G.

Guaranteed to be unequalled in Manifolding capacity.

THE AMERICAN WRITING MACHINE CO.,

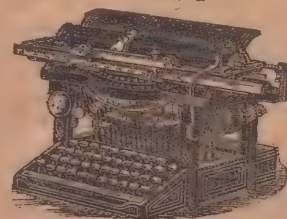
New York Office, 237 Broadway

Hartford Conn



Remington Standard Typewriter.

40,000 IN



DAILY USE.

THE STANDARD OF THE WORLD.

Especially adapted for manifolding, and for rapid work.

Adopted by the New York Associated Press, Western Associated Press and New England Associated Press, and a large number of telegraphers throughout the country for receiving messages. Send for handsome illustrated pamphlet.

SPEED CONTESTS.

CINCINNATI, July 25, '88. Highest speed on legal work.

NEW YORK, Aug. 2, '88. Highest speed on correspondence.

TORONTO, Aug. 13, '88. (Intern'l Tournament for World's Championship.) 1st and 2nd Prizes, business correspondence. 1st and 2nd Prizes, legal testimony (gold and silver medals.)

Pamphlet with portraits of Miss Orr, (champion) and McGurrian, sent on application to

Wyckoff, Seamans & Benedict,
327 Broadway, New York.

THE ELECTRIC AGE.

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

Entered as Second-class Mail Matter.

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"ELECTAGE" NEW YORK.

TERMS OF SUBSCRIPTION :

One Copy, one year, \$1 50
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(INVARIABLY IN ADVANCE.)

CLUBS.—One extra copy of the ELECTRIC AGE, will be supplied gratis for every Club of five subscribers.

We invite correspondence from members of the profession and solicit articles from manufacturers for publication. Subscribers should promptly notify us of any change in their addresses, giving the old as well as the new one, that they may receive all the papers they pay for.

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Reading Notices, 25 cents per line.

Births, Marriages, Deaths and other Notices, 50 cents each.

Papers will be discontinued at the expiration of the time contracted for with due notice of same

J. B. TALTAVALL, Editor and Publisher,
F. E. DOLBIER, Manager, Advertising Dept.

J. B. SABINE, Manager Patent Bureau,
No. 5 Dey St., New York.

H. I. JOLLEY, Agent, 195 Broadway, New York.

W. J. ANDERSON, Agent, 7 Wellington St. East, Toronto, Ont.

J. J. SEITZ, Agent, G. N. W. Tel. Co., Hamilton, Ont.

NEW YORK, APRIL 16, 1889.

In the suit for forfeiture of the Western Union charter in Pennsylvania to the Commonwealth for consolidating with the Baltimore and Ohio Telegraph Company, the former denies that it or the Baltimore and Ohio are subject to the constitution and laws of Pennsylvania. It admits that it has acquired substantially the whole stock of the Baltimore and Ohio Telegraph Company, but asserts that it has not consolidated with the said company. It also denies that the Baltimore and Ohio Company owned a competing line of telegraph. It further denies that it holds any part of the capital stock of the Baltimore and Ohio Telegraph Company, of Pennsylvania, or that it at any time consolidated with said company. It further says that the Western Union Telegraph Company is incorporated for telegraph purposes under the laws of New York, with power to construct and operate lines by telegraph, and to sell its own property or to acquire that of others.

The Western Union Company has invoked the court to grant it an injunction restraining the Mayor from cutting down its poles. We stated in a previous issue that the Mayor was over zealous in his endeavors to bury the wires. It is quite evident now in view of recent explosions which have occurred in the subways, that something better than an ordinary ditch will be necessary to bury the wires in New York. The Western Union is clearly in the right and the injunction should be made permanent. The city has utterly failed to provide adequate conduits to receive the wires and until it succeeds the telegraph business of the metropolis should remain undisturbed. On April 12th, a decision unfavorable to the Western Union was rendered.

An order of the United States District Court recently handed down, turns over to the receiver of the American Rapid Telegraph Co., General Edward Harland, four top wires and poles between Cleveland and Chicago, as well as well as the entire reconstructed line between New York and Boston. The Court also gave to the receiver of the Bankers and Merchants' Telegraph Company, General Farnsworth,

the wires strung by the Bankers and Merchants on the American Rapid poles.

CANADIAN TELEGRAPH SUIT.—The declaration of the Great North Western Telegraph Company, in its suit against the Montreal Telegraph Company for alleged breach of contract has been served. The action is taken under the lessor and lessees act, and is for \$80,000, which the plaintiffs claim they are entitled to through the fault of the defendants in not carrying out their contract. When the plaintiffs took over the business of the defendants they obtained privileges on the South Eastern, Credit Valley, Brockville and Ottawa, and Prescott and Ottawa railways. In 1886 the C. P. R. acquired possession of these lines and commenced a general telegraph business greatly to the detriment of the plaintiffs, who claim that their business has been in consequence reduced by at least \$40,000 a year. They paid the dividend of eight per cent. under protest, and now claim \$80,000, being the loss sustained by them during two years. The defendants, although notified of the action of the C. P. R. refused to take proceedings, and must therefore be held responsible.

THE TELEGRAPH CORPS.—Mr. Wm. B. Wilson, of Philadelphia, a well known military telegrapher, recently delivered an address in which he said: "On the 27th of April, 1861, on the order of Simon Cameron, then Secretary of War, David Strouse, Homer Bates, Samuel Brown and Richard O'Brien, four of the best and most reliable operators on the Pennsylvania Railroad Company's telegraph line, arrived in Washington and formed under Thomas A. Scott, of Philadelphia, the germ out of which grew the best disciplined, the most wonderfully accurate, reliable and intelligent army telegraph corps ever known to the world." The story of the brilliant service rendered by this corps in which Mr. O'Brien lately deceased, bore so brave a part, forms one of the most interesting chapters of the civil war. Telegraphers, however, are secretive and modest, and this is probably why the work of the electricians has not been exploited more loudly.

The many friends all over the world of Mr. J. Russell, chief superintendent of the Central Telegraph office, London, England, will be delighted to hear that he celebrated his silver wedding a few days ago, on which occasion he was presented with a handsome gold watch by the staff under him. Few men are more respected. A strict disciplinarian, yet held in the highest esteem and regard by all. We hope he may live to celebrate his golden wedding.

The Western Union Telegraph Company has made an extensive reduction of rates. The reduction affects about 10,000 offices in twenty different States, and is from ten to fifteen cents on the first ten words and one cent on each additional word. Night rates have also been reduced in twenty-three States.

The Postal Telegraph Cable company began legal proceedings against the Norfolk and Western Railroad Company, March 16th, for the purpose of condemning the right of way along the roadway of the railroad company for the construction of the line from Petersburg to Norfolk.

The Executive Committee of the National Electric Light Association have fixed Tuesday, Wednesday and Thursday, August 6, 7 and 8, for the date of the Convention at Niagara Falls.

Helmholtz has shown that heating or electrifying an invisible jet of steam makes it visible in bright tints varying with temperature or potential.

The British Postmaster-General has announced that that government is about to lay a submarine cable from Bermuda to Halifax.

The first submarine telephone cable—about thirty miles long—is to be laid between Buenos Ayres and Montevideo.

Annual convention of the Train Dispatchers' Association will be held at Indianapolis, June 12th.

A SKETCH OF THE HISTORY, DEVELOPMENT
AND PRACTICAL APPLICATION OF THE
ELECTRICAL CONDENSER.

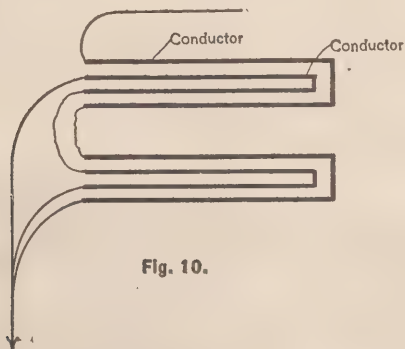
BY WM. MAVER, JR.

From *The Electrical Engineer, New York.*

(Continued from last issue.)

This arrangement permits the plates of each series to be readily connected together without danger of short-circuiting with the alternate series. Another method is frequently employed in which all the sheets of foil are placed evenly throughout, and a small strip of tin-foil inserted between each sheet of tin-foil and the dielectric, the strips of the alternate plates being then connected together.

There are two general forms or shapes into which the sheets of foil and dielectric are arranged, namely, the flat and cylindrical—figures 7 and 8. These forms are, however, varied as to length, width and thickness, to any desired extent.



One of the latest improvements in the arrangement of the condenser is found in the Marshall multiple-series condenser, in which the different sections can conveniently be placed in series or multiple or in a combination of both or entirely separate one from the other. A diagram of the connections of this arrangement, which represents such a condenser having ten sections, is shown in figure 9. The manner of connecting the plates to the brass strips 1, 2, 3, etc., is shown in three instances in the figure. DE are the usual metallic connecting strips. In the figure three sections of plates are shown connected in multiple arc, by the insertion of plugs. Sections 8 and 9 are joined in series by means of a piece of wire and binding posts similar to that shown separately in the figure. Section 7 is shown as discharged or short-circuited by the insertion of a plug between the two strips, and section 5 is shown as being used independently of the other sections. Assuming the capacity of each section to be 1. M. F., this condenser would have a range of from 1. M. F. to .01 M. F., beside being capable of providing, if necessary, ten separate condensers of 1. M. F. each.

The condenser as used in fractional electric gas lighting machines is somewhat different in construction from the ordinary modern condenser. It is composed of a few sheets of tin-foil separated by thin sheets of hard rubber, the outside foil being covered also with hard rubber, the whole not being over .25 inch thick. A condenser of this form about one foot square will accumulate from the plate-electric machine of the apparatus a charge sufficient to produce a spark two inches long.

Another form of condenser is that known as the Muirhead artificial cable. In this arrangement one plate or side

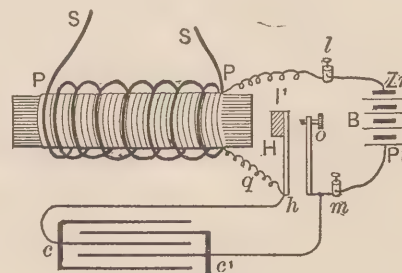
of the condenser is used as a conductor, and it is joined in a continuous strip. The other plate is also joined in one continuous strip and is connected at both ends to the earth, figure 10, the strips being separated by the usual dielectric. The strip used as the conductor is so proportioned that it shall equal in resistance and electro-static capacity the cable of which it is the counterpart. This form of condenser is the one now almost universally used on long submarine cables.

One form of the Varley artificial cable was constructed of a plain resistance along which, at stated intervals, condensers were placed. The result of this arrangement, as shown by Varley himself, is that an irregular distribution of the charge occurs on the artificial cable. In a "main" cable the distribution of charge is regular from the maximum point of potential to zero. The Muirhead device therefore, provides an artificial cable more nearly corresponding to the "main" cable, than the Varley, or as it is sometimes called, the Stearns' artificial cable, and consequently permits a more perfect balance between the main and artificial cables, and increased efficiency in duplex telegraphy.

One of the first applications of the condenser of the sheet form, was its use in the Ruhmkorff coil. Even as first constructed its beneficial effect in amplifying the spark of the secondary coil and diminishing the destructive spark at the contact point of the circuit breaker was very marked. Although apparently simple of explanation, none of the theories yet propounded as to the action of the condenser in performing this function, has, I believe, been definitely accepted as the correct one.

M. Fizeau, who suggested the use of the condenser in the Ruhmkorff coil, explains its action as follows: "As soon as the points of the interrupter are separated the two free electricities of the wire run into the plates of the condenser."

Faraday, Poggendorf, Hearder, Maxwell, Lord Rayleigh, and others, have given more or less divergent views of the action. As a sample of these various views, the following quotations will suffice: Gordon, *Electricity and Magnetism*, volume II, page 44,— "When circuit is broken the extra current induced in the primary wire by breaking is in the same direction as the primary current, and therefore tends to prolong the magnetization of the core. When a condenser is used the extra current spends itself in charging it. The condenser instantly discharging itself sends a current in the reverse direction around the core and at once demagnetizes it." S. P. Thompson, *Electricity and Magnetism*, page 365,— "The object of the condenser is, firstly, to make the break in circuit more sudden by preventing the spark of the extra current, from leaping across the interrupter, and secondly, to store up the electricity of this self-induced current in order that when circuit is again made the current shall attain its full strength gradually instead of suddenly, thereby causing the inductive action of the secondary circuit, at make, to be comparatively feeble."



This latter explanation seems to require that the charge shall remain stored up to the condenser until contact is again made, while there is a path left open to it *via* the battery, and primary coil. See figure 11. The explanation

quoted from Gordon seems to be the one most generally adopted, and it appears to be reasonably satisfactory.

This explanation may be given more fully as follows: Referring to figure 11, which is a diagram of the inductorium and condenser connections, *HO* are the hammer and anvil respectively, of the contact breaker, which is shown as open. The *E. M. F.* of extra current from the primary coil coincides in polarity with that of the battery *B* and both charge the condenser *C*. The extra current having exhausted itself, the charge in the condenser in excess of that due to the battery *E. M. F.* discharges through the battery and primary coil, demagnetizing the latter, and when the hammer again meets the anvil the remaining charge in the condenser is dissipated, leaving it again free to be acted upon by the combined *E. M. F.* of the battery and extra current.

The employment of the condenser to obviate sparking is of vast importance in printing telegraph system, in which the currents are rapidly alternated by the reversing wheel or pole changer. Indeed without the condenser for this purpose the speed of transmission would be very materially reduced.

(To be continued.)

PATENTS GRANTED MARCH 26, 1889.

- 400,088. Galvanic Battery; Carl E. Kammeyer, of Chicago, Ill., Assignor to the Electric Supply Company, of Ansonia.
- 400,126. Galvanic Battery; Frank Shaw, of New York, N. Y.
- 400,130. Dynamo-Electric Machine; William L. Silvey of Cincinnati, Ohio.
- 400,139. Switch-Stand for Dynamo Stations; Robert Edward Stewart, of Dallas, Tex., Assignor to himself and John Hugh Spivey, of same place.
- 400,141. Telegraphic Transmitter; Ross C. Stone, of New York, N. Y.; Samuel Wesley Smith, Administrator of said Ross C. Smith, deceased. A telegraphic transmitting-board consisting of an insulated metallic plate, capable of connection to the line wire and an integral non-conducting covering said plate, said covering being pierced by apertures representing the characters of a signal covering the entire surface of said metallic plate except where perforated.
- 400,198. Electric Arc Lamp; Edgar A. Edwards, of Cincinnati, Ohio.
- 400,214. Electric Lightning System; William L. Horne, of Meriden, Assignor to the Vacuum Company, of Hartford Conn.
- 400,228. Galvanic Battery; Alexander Imchenetzky, of St. Petersburg, Russia.
- 400,232. Push-Button; Joseph Hufty Lehman, of Philadelphia, Pa.
- 400,235. Galvanic Battery; Edward Liebert and Sally Adolf Rosenthal, of Berlin, Germany.
- 400,239. Electric Burglar Alarm; Joseph Y. McKinney, of New Wilmington, Pa.
- 400,264. Automatic Grounding Device; Elmer A. Sperry, of Chicago, Ill.
- 400,300. Electric Conduit; Henry A. Chase, of Boston, Mass. Application filed November, 30, 1888.
- 400,304. Hotel Call; Edward J. Colby, of Chicago, Ill. Application filed May 10, 1888.
- 400,308. Method of Constructing Underground Conduits; William Clarence Cranmer and Sydney William Arnold, of Philadelphia, Penn.
- 400,311. Electric Motor; Etna Hyde Davis and Reuben Westervelt, of Elmira, N. Y.
- 400,315. Regulator for Electric Motors; Robert S. Dobbie, of New York, N. Y., Assignor to the American Electric Motor Company, of New Jersey.
- 400,317. Ore Separator; Thomas A. Edison, of Menlo

Park, N. J., Assignor to the Edison Milling Company (Limited), of New York, N. Y.

(1) 400,325. (2) 400,326. (3) 400,327. (1) Telephone. (2) Telephone. (3) Magnetic Electric Generator; Noel B. Ginochio, of New York, N. Y., Assignor of one-half to Elias M. Green, of same place.

400,352. Arc Lamp; William H. Miller, of New York, N. Y.

400,375. Pneumatic Flexible Slot Conduit for Electric Railway Conductors; Charles J. Van Depoele, of Lynn, Mass.

400,378. Incandescent Electric Light; Edward Weston, of Newark, New Jersey, Assignor to the United States Electric Lighting Company, of New York, N. Y.

400,404. Secondary Battery; Rudolph M. Hunter, of Philadelphia, Pa.

GRANTED APRIL 2.

400,300. Electric conduit; Henry A. Chase, Boston, Mass.

400,304. Hotel call; Edward J. Colby, Chicago, Ills.

400,308. Method of constructing underground conduits; William C. Cranmer and Sydney W. Arnold, Philadelphia, Pa.

400,311. Electric motor. 400,312. Thermostat; Etna H. Davis and Reuben Westervelt, Elmira, N. Y.

400,315. Regulator for electric motors; Robert S. Dobbie, New York, N. Y., assignor to the American Electric Motor Company, of New Jersey.

400,325. 400,326. Telephone. 400,327. Magneto-electric generator. Noel B. Ginochio, New York, N. Y., assignor of one-half to Elias M. Green, same place.

400,352. Arc lamp; William H. Miller, New York, N. Y.

400,366. Process of hardening steel; Frederick Sedgwick, Oak Park, Ill.

400,375. Pneumatic flexible slot conduit for electric railway conductors; Charles J. Van Depoele, Lynn, Mass.

400,378. Incandescent electric lamp; Edward Weston, Newark, N. J., assignor to the United States Electric Lighting Company, New York, N. Y.

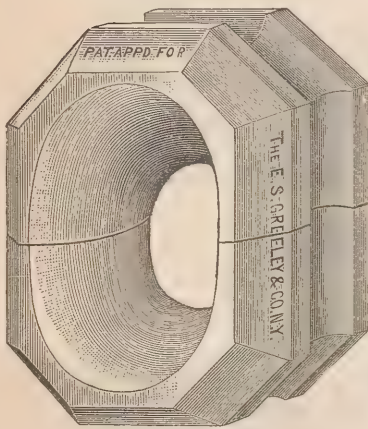
400,395. Electric distribution by storage batteries; Stanley C. C. Currie, Philadelphia, Pa., assignor to the United Electric Improvement Company, Gloucester, N. J.

400,404. Secondary battery; Rudolph M. Hunter, Philadelphia, Pa.

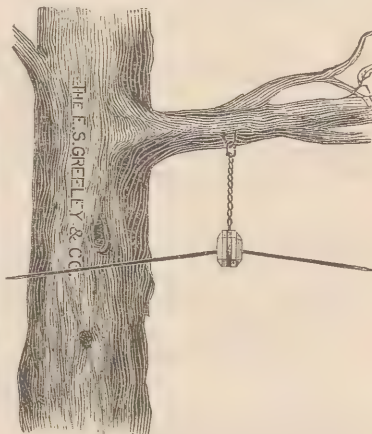
SIGNAL SERVICE—MORSE CODE—A few evenings ago the second division of the N. G. S. N. Y. gave an exhibition in Brooklyn, N. Y., of their signaling ability. The tops of the highest buildings in various sections of the city were selected, from which communication was had by the Morse code with headquarters at City Hall. Torches and flash lights were used. The Oatman flash signal lamp proved successful in every particular, while the torch signaling was not quite up to the average. The Oatman lamp is manipulated in a similar manner to the Morse telegraph key and wonderfully rapid signalling can be successfully carried on by its use. The lamp can be read a distance of from 15 to 20 miles without difficulty. Some excellent time was made in the transmission of messages between armories and headquarters and rapid signalling with flags for day service was executed in the head quarters. Among the tests were the transmission of twenty-one words in three minutes and fifteen seconds and seventy-eight letters in one minute and forty-five seconds. The average of accuracy was ninety-eight seventy-two. Captain F. P. Leigh, of the Second Brigade is to be congratulated upon the excellent showing of the evening's work and the State of New York for encouraging this valuable branch of the military service which in our opinion, it is wise in so doing. Among the members of the corps are R. C. McDonald and A. C. Wark, of the Western Union force, two first class telegraphers.

THE "VICTOR" SPLIT INSULATOR.

The "Victor" Split Insulator has the special merit of being provided with an opening to accommodate the largest wires, perfectly smooth bearing and locking lugs, that prevent any torsion of the two parts which may be bound together either by the "Victor Insulator Hanger" or ordinary iron or copper line wire of a size adapted to the strength required for any given service, or as may be most convenient. Being in two parts they can be put upon a line already erected equally as well as upon a new one; and for taking up sag, and for "Guys" and "hauling off" purposes, they are the only thing of any value now in the market. They may be used to increase the capacity of cross arms by suspending them beneath. On elevated road structures and in tunnel work they are particularly useful.



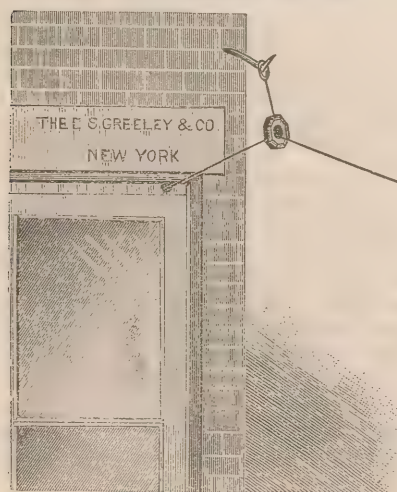
VICTOR SPLIT INSULATOR.



VICTOR TREE INSULATOR.

The "Victor Insulator Hanger" is made in two sizes—2 inches and 6 inches respectively. It consists of No. 14 Galvanized Wire twisted together, except at the ends which surround the Insulator. The ends are long enough to encircle the Insulator twice when they are simply twisted together as shown. The hanger is ordinarily made of No. 14 galvanized steel wire, which is found to have ample strength for all general purposes, but, on special order, they will make them of No. 12 gauge wire of any desired length, at a corresponding increase in price.

The upper end or bearing of the hanger is provided with a stout smooth thimble that will withstand any abrasion, and which when hung on a hook, staple, or loop of wire, secures a practically universal joint admitting of free motion in all directions. The measurement of the hanger is taken



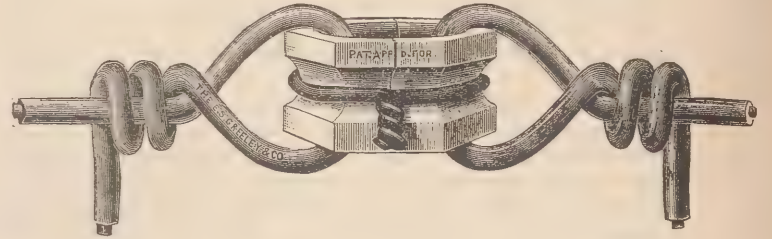
Victor "Guy" "Take up"



Victor Insulator Hanger.

from the centre of the eye, or thimble, to the crotch where the wires divide to receive the insulator.

When used as "Chafing Blocks" on tree limbs, no hanger is required, it simply being necessary to secure them to a limb with a piece of line wire which may be readily done.



Circuit Breaker Insulator.

When suspended beneath cross-arms, the "Victor" Split Insulator and Victor Hanger doubles the capacity of the arms to which they are attached. The E. S. Greeley & Co., of 5 and 7 Dey St. New York, are the manufacturers, and they will be pleased to furnish further information upon application.

THE JOHN ROE FUND.

In our last issue the individual acknowledgments amounted to \$91.50 and the amount previously acknowledged \$282.15, making the total to that date \$373.65.

We are in receipt of the following letter :

BINGHAMTON, N. Y. April 4th, 1889.

To the Editor of the ELECTRIC AGE,

DEAR SIR :—My husband and I through the columns of your paper wish to extend our deepest gratitude to Mr. Phillips and all those who so kindly contributed to the subscription circulated in our behalf. We hope you may never be placed in a position to require similar assistance. You can imagine how it has comforted us in our affliction. Again thanking you all for your great kindness, we remain

Yours gratefully, MR. and MRS. JOHN C. ROE.

The following sums are duly acknowledged : From New York, T. H. O'Reilly and C. H. Bogle \$2.00 each ; W. H. Grant, T. R. Taltavall, Pete Brady, Mr. Ashcroft and Mr. Thompson \$1.00 each, and J. S. Burhans, Jr., 50 cents ; from Boston : H. H. Fletcher and C. I. Brown \$2.00 each ; J. W. Wood and J. E. Flynn \$1.00 each ; from Providence, R. I., W. J. Charnley \$2.00, and Geo. J. Watts \$1.00 ; from Lowell, Mass., H. E. Dean and M. C. Wright \$1.00 each ; from New Bedford, Mass., H. C. Bolles and C. B. Bolles \$1.00 each ; Thos. F. Hannigan, Newport, R. I., \$1.00 ; E. C. Cooke, Fall River, Mass., \$1.00 ; E. H. Sargent, Windsor, Vt., \$1.00 ; Mat Davin, Lynn, Mass., \$1.00 ; and F. B. Boyden, Taunton, Mass., \$1.00 ; total \$27.50. Previously acknowledged \$373.65 ; total to date, \$401.15.

A fourth telegraph wire is being stretched between Portland and Ashland, Ore. It is 345 miles long and will cost \$63,000.

J. McRobie, manager of the Western Union Telegraph Company at San Francisco, has been appointed superintendent of the American District Telegraph Company of that city.

Speaking of the new telegraph company which will enter Los Angeles, Cal., the *Express* says the business men anticipate considerable rate cutting. It says : "Los Angeles is to have another telegraph line running from its center to all parts of the United States, Canada and Europe. The company's wires run from there to San Francisco. At the latter place they extend to Washington and the North, and along the Canadian Pacific route to the East and New York, and thence to Europe. This will give Los Angeles direct communication with Mackay's great cable system, and give the Western Union a sharp competitor."

BUSINESS NOTICES.

The Law Telephone Company reports an increased business, and among the numerous testimonials received by them of late, the following are good samples. To W. F. Blake, Esq. Dear sir: I have to thank you for your courteous letter of the 12th, inst. The Law Battery is certainly the most workman like of any battery I have seen, and in connection with the heat regulating apparatus is doing most satisfactory duty. Yours very truly, Francis Blake, Keewaydin, Weston, Mass., Auburndale, P. O. Another letter from the same party reads; Will you kindly furnish me with twelve more cells of the Law Battery. I like it. Yours very truly, Francis Blake. These letters tell the complete story.

The Empire City Electric Co., 15 Dey St, New York., is developing into one of the largest electrical establishments in New York. They are amply prepared to furnish electrical apparatus and materials of all kinds; they aim to be a supply house, in the true sense of the word, for telegraph, telephone, electric light and construction companies. The facilities for manufacturing electrical goods, are unsurpassed by any other concern in the city. The popularity of the house is evinced by a walk through its extensive sales rooms, which are constantly filled with buyers of electrical goods. A representative of the AGE, while being shown through the establishment lately, was astonished at the magnitude of the concern. The building they now occupy, which is five stories high and has two basements, is filled with electrical goods of every description. But on account of their increasing business they contemplate cutting through to Cortlandt Street thus giving them a store from one street to the other. This company has recently issued an elegant catalogue, which will be sent to any address upon application.

GOLD AND STOCK INSURANCE Co.—The auditing committee report having examined, and found correct the accounts of the secretary and treasurer for the quarter ending March 31st, 1889, and respectfully present the following report:

Balance on hand, January 1st, 1889,		\$2,039 00
Receipts for fees,	\$ 69 00	
" " dues,	800 50	
" " interest,	25 50	895 00
		<hr/>
Total		\$2,934 00
Disbursements:		
For current expenses,	\$ 80 50	
Balance on hand March 31st, 1889,	2,853 50	
		<hr/>
Total		\$2,934 00
Gain for quarter, \$814 50		

F. W. Baldwin, John M. Moffatt and W. H. Jackson, committee.

WORD COUNTERS FOR TYPE-WRITERS.—Many inquiries have been made of us as to a desirable machine to be used for counting words in receiving on a type-writer. The Barker Word-counter, which is adapted for all type-writers is the best device we know of. We have these machines for sale and orders for them may be directed to us. The Number 1, price \$6.50, is especially adapted for receiving commercial messages, while the number 2, price \$10.00, is indispensable on press circuits. The number 1 registers 2,500 words and can be reset with little trouble and no loss of time. The number 2 is never ending and will register 80,000 words without attention. These registers can be attached to any of the three leading type-writers and the manner of attaching the number 1 or number 2 is just the same, but in ordering care should be taken to state what make of type-writer the counter is to be used on, as the means of attaching are different. Address all orders to J. B. Taltavall, 5 Dey street, New York.

Postmaster General Wanamaker has a special wire from his Philadelphia store to his office in Washington.

A SINGULAR TELEGRAPHIC BLUNDER THAT EMBARRASSED A BACHELOR.

One of the well-known members of the Electric Club of New York is Mr. A. F. Stanley, a gentleman whose retiring disposition, it is supposed, has, up to the present, kept him a single man. A few days ago, while recuperating from the fatigue of attending the Chicago Convention of electric light men by visiting a pretty little village near New York where he had discovered a special attraction, he received a startling telegram, which caused each individual hair to stand on end and filled with horror his heart of hearts. The telegram read as follows, and was signed by an acquaintance: "Meet Rosa at Electric Club Monday evening with Ida. If going, telegraph me what time."

The feelings of Mr. Stanley upon the receipt of the above, with his surroundings considered, may be imagined. He at first decided it was a joke played on him by the New York friend. He hastened into the city to discover the perpetrator and visit him with condign punishment that such an act merited. The original telegram was traced and then the whole matter was explained. It read as follows, and had been sent with reference to a proposed trip:

"Meet Ross at Electric club Monday evening with idea of going. Telegraph me what time."

The joke was so good it leaked out. Lieut. H. S. Ross, U. S. N., was the gentleman who passed for "Rosa." We do not remember ever to have seen so complete a change of meaning in a telegram with so slight a change in its wording.

Armed with the original telegram we have no doubt that Mr. Stanley has been able to regain his former position in the minds and hearts of his friends in the said pretty little village, where the contents of the telegram received had promptly leaked out, as so often happens in country towns. —*Electrical Review.*

PANAMA R. R. NOTES.—A few short months ago the Isthmus was a lively place. A glance at the streets of Aspinwall and Panama presented a picture seldom seen. Specimens of humanity from every quarter of the globe were to be seen. Almost every language under the sun was spoken. The canal company was then seeing its palmiest days. The management (?) scattered the company's funds with a lavish hand and the French telegrapher was in his glory. The canal company employed nearly fifty at enormous salaries. They worked the French system, using registers. Through messages were relayed at each of the ten stations on the line between Aspinwall and Panama. But now all this is changed. The festive Frenchman has packed his collar box and sailed for "Ma Belle France." The "Amerique" on her homeward voyage carried a large crowd of them. When the company collapsed nearly every Isthmian enterprise came down in the crash. As to the condition of business on the Isthmus it is as dead as the traditional "door-nail." Prior to the collapse, the Panama Railroad was the best paying road for its length (47 miles) in the world, 25 operators being required to handle the telegraph business, and applicants were seldom turned away. Now there is scarcely employment for eight. Those left after the weeding are W. R. Evans, manager, Aspinwall; H. G. Prescott, Panama. These gentlemen handle the commercial business and relay cable business across the Isthmus. Mr. J. F. Frasher is chief dispatcher with R. W. Bergin, assistant. Those on line of road are C. M. Love, at Bohio; Geo. Geiger, Mamei; F. E. Wheeler, Matochin; W. A. Kennon, (Bill), at Culebra; Chas. Wessel, railroad office Panama, and M. C. Smith, relief. Mr. A. L. Frost, former manager at Panama, left on the "Miapo" on the 16th, for Santiago, Chili, pleasure seeking. Cut off from civilization as we are, I'm afraid we would be "in the soup" without the AGE, as it is I think we are abreast of the times.

J. W. Kates superintendent of the Southern division, of the Postal Co., is now making arrangements for the speedy opening of offices south of Richmond.

ELECTRIC STREET CARS IN BOSTON.

The Boston Electric West End Railway upon the Sprague system, has been in successful operation now for about two months, and we take pleasure in this issue of our paper of presenting two views made from recent photographs of the cars in operation upon that road.

One of these views, represents a Sprague electric car upon the Beacon Street Boulevard, showing the method of laying the street-railway track in the centre of the street, between the two road-ways in a strip of park 30-feet wide running the whole length of the Boulevard. The view is taken from the Boston & Albany R. R. Bridge.

The other engraving represents one of the cars on Beacon Street near Coolidge corner, and was taken just after a snow-storm in which the electric cars without the aid of snow-ploughs or other devices, had ploughed their own way through nearly a foot of snow without trouble or difficulty.

Since this road was put into operation the cars have carried a large number of passengers, and their speed and ease of running have made them extremely popular among the residents of Boston, along the line of road.

When the subject of electric railways with overhead wires was first mooted in Boston, there were a large number of objections raised from aesthetic minded people, from the fancied objectionable appearance of the overhead wire structure. The Sprague system which enables this overhead system to be made of the lightest nature possible by carrying the main current at the side of the street and not over the track, and the extremely tasteful appearance of the iron poles which are used throughout the entire distance, have removed all objections upon this score. The leading newspapers of Boston, which were at first strenuously opposed to the introduction of electric railway wires, within the city limits, are now strongly advocating the introduction of the Sprague system throughout the entire city, supplanting the slow horsecar by the more rapid electric car throughout the entire city of Boston.

"The tendency of this electrical age," said a metropolitan philosopher recently, "is towards the destruction of polite and chivalrous customs of all kinds. For instance, take the self-closing door. How can we expect a youth of the twentieth century to be a model of good manners when we do



The road has been hailed with delight by the many seekers after rapid transit in Boston, who see in it the only solution of this question not involving the enormous expense and hideous appearance of the cumbersome structure required by an elevated railway. The cars run from fifteen to twenty miles an hour with ease, and are yet under such perfect control that they can be stopped even when running at full speed, within a distance of one or two feet. In spite of their high speed these cars are more safe than ordinary horse cars running at six or seven miles an hour, since they are under better control and can be stopped so much more quickly.

those things which tend to inculcate proper conduct by machinery? A boy from a primitive country town comes to New York and goes into an office where they have the self-closing door. He repeatedly tries to shut the door after him, but the self-closing arrangement, which works slowly and won't be forced, balks him, and he naturally loses the noble instinct of closing the door behind him. That is only the beginning of his demoralization. After a while he falls a victim to the habit of not giving his seat to a lady in a crowded car, substitutes the abrupt interrogatory 'what?' for the respectful 'sir?' alludes to his father as the 'old man,' and waxes prosperous."

BOSTON NOTES.—Though rather early in the season there has been quite a number of additions to the waiting list, and Manager Henderson has deemed it advisable to refuse employment to some of the later applicants as business is extremely dull and the present members of the list are not making full time. Among the recent arrivals are Messrs G. W. Williams, Kansas City, Jos Walsh, Augusta, Me., and E. J. Thompson, City; also Misses Cameron, Burke and McDougall in the City line department. Mrs. Hegerty, formerly of Boston, is now with the W. U. Hallowell, Maine, taking night report. Mr. Albert Harrison has gone to Worcester for the W. W. Miss Kate Crowley and Miss Fanny Goode have resigned and accepted broker's positions. Mr. R. L. Stevens of the South End office was relieved by Mr. Sullivan of the Post Office and transferred to the main office. Miss K. G. Clifford succeeds Mr. Sullivan as manager of the Post Office. "P O" is one of heaviest branch offices in the city, and is cared for at 109 by Miss Dollie Dunn. Miss Mary Severance, for some time check girl in the city line department, has been assigned to the Providence depot office

J. P. Pendergast of the Philadelphia Quad. Mr. F. B. Gray whose wife died recently, has the sympathy of the entire force. Mr. T. R. Finan has been appointed to take charge of the Western Union office at the Base Ball grounds during the season.

We have a young subscriber at Columbus, Ohio, just twelve years of age. His name is Robbie K. Howard and he is developing remarkable electrical genius for one so young. At the age of eleven he constructed a line a mile in length and has mastered the art of sending and receiving unaided by anyone. He gives every promise of making a name for himself in the telegraph world as he says he is going to dig into everything electrical.

J. D. Clark, who was manager of the American District Telegraph system, Columbus, Ohio, has resigned, and left for New York City, to assume superintendency of the fire alarm system, in that city. Mr. Clark was with the B. & O. Telegraph Co., Chicago, until the consolidation. A host of friends rejoice at his success.



as operator. The Danbury Western Union force has been transferred to the Boston office pending an interruption to the cable. Mr. S. C. Tugo of the St. Albans wire has been hastily summoned to his home in Ontario, by the illness of his sister. Mr. E. L. Marsh of the waiting list is filling his time. Mr. T. J. Clifford after a few months absence with a broker firm has returned to his former duties on the Cable quads. Mrs. Cobb of the Newburyport wire, who has been quite ill for a week or more is able to be at her desk again. Mr. George Merrill of the St. John Quad is the proud father of a son born on St. Patrick's day.

Mr. John T. Stevens of Woonsocket, Pa., paid us a visit last month on his way to his home in New Hampshire. During his brief vacation Mr. Stevens was relieved by Mr.

NEW YORK POSTAL NOTES.—Miss Cartisoz and W. H. Young have returned from vacation. W. B. Clum, J. Moore and May McDonell are on the sick list. F. J. CarP has been appointed delivery clerk, vice J. Manning, who is now assisting cashier Butterfield. D. Sullivan is all night clerk. The following have been added to the waiting list: W. J. Carroll, L. E. Browne, J. F. Mulloy, E. S. Schram, F. L. Chambers.

Hartford electric light men complain that birds attempt to build nests in the lamps and on the frames of the lamps, and so cause much annoyance. One or two unused lamps are occupied by nests on which sparrows are setting.

HOW THE BABY PAID THE MORTGAGE.

Continued from Page 3, March 16th.

"As is usual in such cases, all the participants in the affair were called before the superintendent. Each man told his story. The operator at A—firmly adhered to his falsehood, and I as firmly to the truth, but to no purpose. The influence of his director uncle saved for him his position, the blame was attached to me, and I was discharged, forced to give up my position and move. Some time before this, trusting in the security of my position, I had put all our little savings together and purchased a small house and lot in the pleasantest part of our city. I had borrowed from our savings bank the sum of two thousand dollars, and placed a mortgage for that amount upon the place, believing that with prudence and economy we should be able to repay and lift the mortgage in due course of time.

"A pleasant little place it was, and much pleasure we took in fixing it up with flowers and vines, until it presented a most attractive appearance, and to ourselves, at least, was the very perfection of taste and home comfort. Now it must all be given up. This made the blow doubly hard, for where could I obtain a position at my business, with the knowledge that I had caused a wreck?

"No! I must give it all up, and commence at the foot of the ladder again.

"The company, having decided to put in the wires and open a station at C—, as a measure for guarding against further trouble, very kindly offered the situation to me. I could but accept. Soon we were moved into our new quarters—I cannot call it a home—in a modest house near my station.

"Day after day came and passed now, so uneventually as nearly to destroy all ambition. Duties, there were none to speak of. My station was what is termed a 'flag station.' Trains made no regular stop there, and when an occasional passenger wished to take the train, a very unusual occurrence by the way, my red flag by day, or red light at night, 'hauled up' the desired train. I grew despondent. Every day I sat in my little den of an office, listening to the business passing upon the wire, business in which I took no active part, few, indeed, were the opportunities I had to open the wire.

"The little boy was my almost constant companion. He took great delight in the rural life which we were obliged to lead, grew stout and brown as any little rustic, and his delight knew no bounds as he stood upon the platform when the heavy freights went rolling by, or the fast express, with a rush and scream of the whistle, passed like a flash; and he would watch them out of sight with great round eyes, laughing and clapping his hands with delight.

"We used to watch him in silence, my wife and I, for she often came to sit with us, and cheer me by her presence; and thoughts of the opportunities he would miss, and the privilege of schooling he would be debarred from by my misfortune, were not calculated to make us cheerful.

"One beautiful summer day, when I had been some three months at my station, sitting as usual watching and listening at my instrument, for want of something better to do, I heard the dispatcher's office calling A—, heard him answer, followed by an order from the office to '14 for special freight passing east,' heard the reply exactly as the operator had given it to me on the day of the wreck—'15 for special freight'—then this order:

"To Conductor and Engineer Special Freight:

"You will not leave A— until special passenger train, Fairfield, conductor, has arrived."

"The special passenger train referred to was, as I knew, for I had heard it reported by wire, composed of an engine, superintendent's private car, and directors' car, filled with the officers of the road with their wives, all of whom had been down the line on a pleasure trip to inspect the new station and grounds at our eastern terminus, and were now

returning with all haste, in order to reach their homes in this city before dark.

"I heard the superintendent's telegraphic request to the dispatcher to give them the right of way as far as practicable, and in accordance with this instruction he was now holding back the freight.

"I sat idly watching the approach of the special, and marking the quick time they were making, as the telegraphic reports, one by one, succeeded each other, as the train passed station after station—and still bemoaning my hard fate.

"No mistake this time, I thought, only for me was the ill luck reserved: for surely the operator at A— would not, could not, commit the same fault twice. This time there would be no poor assistant to attach the blame to but the chief dispatcher.

"I sat there some time filled with these ungrateful and useless thoughts, until I was disturbed by the entrance of the little boy, who had been busy at play outside. He came in in high glee, exclaiming: 'Papa! papa! train coming!'

"No, dear, not just yet. Wait five minutes and then we will see them go flying by,' I answered him with a smile, knowing how pleased he would be too see the rushing train.

"No! now, papa, now! I can see the smoke—come out quick!" To please him I complied, and looking up the line in the direction of the approaching special, which had passed the last station east of me, and must now be within five miles of our station.

"That, that way, papa! Look through the trees—see?"

"I turned, and saw rising above the trees the black smoke which denoted the approach of a train. In an instant I understood the situation. The freight was approaching—the freight which was ordered to remain at A—to cross the passenger train. For a moment I was dazed, but only for a moment, for I knew something must be done, and that quickly, to avert an awful catastrophe.

"Below my station, some hundred yards or so, round a curve which hid it from sight, was a switch which opened upon a side track running by the station for another hundred yards, and which would hold the freight, could I but open it before the freight arrived there. But I must also stop the passenger train for fear the freight would not get on in time.

"Rushing into my station I grasped my signal flags, put the blue in the proper place, but not daring to trust to that to stop them, for fear the engineer, having his orders to run past my station, and at the high rate of speed he was coming, might not see it, I took the red flag and the boy in my arms, and placing him in the middle of the platform, put the flag in his hands.

"Arthur! I said sternly, 'do just as papa says, now, and we will save the trains. Stand right here! Do not move except to wave this flag, so!' giving him the up-and-down motion. 'Wave it, my brave boy, and do not stop till papa gets back!'

"His blue eyes filled with tears at my manner, and giving him a kiss to reassure him, I turned and ran for the switch. Could I reach it in time? I must! I must! Over the ties I ran for life, for lives; for if the train came into collision at that high rate of speed, many lives must be sacrificed.

"O God! permit me to reach it first! I cried.

"As I turned the curve I looked back at the station. There the little fellow stood, just where I had placed him, and the flag, yes! the flag was waving, up and down, up and down, as fast as the stout little arms could move it, and way down the line as far as the eye could reach, I could see the special passenger train coming. Now for it! Looking and running ahead again I saw the freight.

"Thank God! I shall reach the switch first,' I cried, and ran on. My switch key was out of my pocket as I ran, and in my hand. A moment more and the switch was reached, and the train one thousand feet behind in the race

for life. To insert the key, unlock and throw the rails upon the siding, was the work of an instant.

"Yes! I was discovered by the engineer of the train—heard the shrill whistle for the brakes, the danger signal, saw the engine reversed, the brakemen scrambling over the tops of the cars setting the brakes, and knew all was done that could possibly be done to slacken the speed of the heavy train—standing at the switch, ready to throw the rails back as soon as they had passed upon the siding.

"In a moment they were within hailing distance, the fireman was upon my side, down upon the steps of his engine making ready to jump.

"Stick to your engine," I cried. "Run upon the siding, and do your best to stop her. Tell the engineer to stick and stop her for his life."

"It is wonderful that he heard me, much more comprehended my meaning through the rush and the roar of the train, and hiss of escaping steam, as the engine rolled by at greatly reduced speed; but I saw him climb back and commence setting the break of the tender. With a terrible roar and grinding of the brakes upon the wheel, the train passed.

"I closed and locked the switch upon the main line, and started back for the station. I knew the special must have stopped there, else, ere this, it would have been upon us. Yes! sure enough,—coming in sight of the station,—there she stood, safe and sound, and upon the siding beside it stood the freight, now come to a full stop.

"The platform in front of the little depot was filled with people, passengers of the special and train men. I saw the boy, still holding the red flag, in the arms of the superintendent. Crowded about him were the president, board of directors and other notables, invited guests of the road, with their ladies, numbering fully twenty-five people, who certainly, some of them, if not all, owed their life to the little fellow. Upon reaching the station I was at once the center of the excited throng, all eager for an explanation. In as few words as possible I gave, in answer to the superintendent's inquiry, my story,—how the baby had discovered the approaching freight, how I had instantly placed him with the flag, which, it seems, had been the means of stopping them, how I had hastened to the switch, arriving just in time to put the freight upon the siding, and that was all.

"All—no! This was followed by an impromptu directors' meeting in my little seven-by-nine station,—a directors' meeting in which ladies took a prominent part. I was called in with my wife, who had run to the station, alarmed by the unusual excitement—and the boy. Speeches were made which brought the blush to my cheeks and tears to my wife's eyes, tears of joy and pride in the boy.

"Yes sir! They voted me two thousand dollars 'for prompt action and heroic conduct in time of danger,' and at the suggestion of the ladies—who but a woman would have thought of anything so romantic?—also voted to place the boy upon the pay roll as telegraph operator.

"A happy household we were that evening, and with many a kiss the boy was put to bed at night. The next day I was called to the general office, and the dispatcher having told his story, how the orders had been promptly given to hold the freight, there were no doubts now as to the person who had been remiss in duty upon both occasions. I was reinstated in my old position, and we immediately moved back into the little house you see yonder, which the company's gift allowed me to free from debt; and, yes, that is the boy running to meet us now—a proud little fellow upon pay-day, as he goes with me to the office, and stands among the men taking their turn to receive their pay—the pet of all. My wife fears they will spoil him with their attention, and the presents of the ladies on that train.

"The operator? Oh! Without stopping to learn the result of his second blunder he deserted his post, and for aught I know, may be running yet; for, certainly, I have no

knowledge of his future career. His error lay in replying that the blue displayed before putting it out, and then neglecting it. When he saw the train pass, he deliberately tore up the orders, trusting in his ability to shift the blame upon me, in the first instance, but the second was too much."

—W. D. HOLMAN in *The Youth's Companion*.

THE MESSENGER BOY.

OUR UNIVERSAL GENIUS, the UNIFORMED PUCK of To-Day.

The messenger boy is the coming man—we all know to our sorrow that he is frequently the staying boy. He is a republican in the strongest sense of the word, recognizing no aristocracy save that of money. He has an opinion about everything. He has judged Henry Irving and Salvini and Bernhardt; while he revels in the French detective stories, he is au courant of the latest novel, and seeing a young woman hesitate at signing her own name to a telegram quickly suggests that for it she substitutes "R. Elsmere." He is never an amateur at anything. Given a letter to take to one of the actors at the National Theatre the other night he appeared on the stage with it. The scene represented a steamer just leaving the dock, and the audience thought the boy was a part of the play. He came on, delivered his message, joined a group of actors and as the steamship sailed was waving his hat and bidding farewell to the departing member of the O'Reagan family. He has an intimate acquaintance with all the dogs around his special station, and the woman who loses her pet will get him much quicker if she posts a description of him and the reward she is willing to give in the messenger office than she would by advertising in any paper for two weeks. He has never known dyspepsia. He can eat anything, from a bit of pate and a glass of champagne tipped on the sly by a kindly butler to a slice of hokey-pokey ice cream licked off a scrap of brown paper. Two things he has never possessed—a pencil or some change. He freckles like the trout, but never seems to grow bearded like the pard.

He admires a pretty woman and does not hesitate to express his admiration, no matter where he may be. Not very long ago one of the genius—I am almost tempted to call him a genius—stood at a Fifth avenue street crossing where some carriages were blocked. On one of them he noticed a crest, and in a second made a flourishing bow to the stately coachman and screamed out, "Do you catch on to his jags, the Buck of Dukeingham?" Seeing an extremely pretty woman laughing from the window at him, he made another bow, tossed off an imaginary bumper and said:

"Here's to her Dukess!" That boy may be anything he wants, but because of the vivid imagination I think it most likely he will be the editor of a newspaper. The future is the messenger boy's. Of the present he takes no care, but he gets the very cream of enjoyment, and if people dislike to have their messages a little late or object to some of the funny little ways he's got, he is sufficiently master of the situation to advise them to try "de oder company and see what blokes they'll send;" and somehow we never do send for the other company or test their "blokes."

FAST WORK BY A UNITED PRESS OPERATOR.—A remarkably fast piece of telegraphic work was done by the well-known veteran operator, Mr. James D. Thurston, of the Washington office of the United Press, on Wednesday night, March 20th. On that occasion while sending the regular Southern night report of the United Press, he sent 2019 words in forty-five minutes, or considerably more than forty-four words a minute. The receiving operators were: at Richmond, Mr. Charles B. Roden, who took the report on a typewriter; at Montgomery, Mr. George Sornburger, who took it with a pencil. In sending, abbreviations were used to a considerable extent. Mr. Thurston very naturally asks, "Can the 'A. P.' or any other 'P' beat this?"

WESTERN UNION NOTES.—William Henry Hoyt is by birth a Nova Scotian. He is slightly below the medium height, is well knit and a man who, his associates aver, has never been "rattled." For eighteen years before accepting his present position as chief of the New Jersey and Erie section of the board he "held his own with the best of them" on the Boston wire. His alone of all the positions at the switch is perhaps the most exacting. Exposed as are the wires over which he has control, to the fierce storms which in summer as well as in winter, rage along the Jersey coast, often interrupting for days at a time, all communication with some of the more distant and inaccessible points on the line, the reader may at a glance see a few of the difficulties Mr. Hoyt has to contend with. To keep traffic in motion at such times is of course of the utmost importance. From the office nearest the break, business destined to points beyond is sent by train. In the meantime linemen are ordered out and pending their arrival upon the scene, a wreck on the Erie for example, refills Mr. Hoyt's hands with business. It matters not how burdensome this may be he carries his load of "trouble" philosophically and without a murmur. Of him it is said by one of the most prominent traffic chiefs in the office. He disregards nothing. When a wire is reported in trouble, he makes a memorandum of the fact and when opportunity offers locates the "trouble." "He is" said the speaker, "one of the most conscientious men in the business." And your correspondent adds, one of the best. A suite of six rooms having been secured at 48 Church street for the term of one year, with the privilege of a renewal of the lease at the expiration of that time, it is only a question of a few days after May 1st, before the New York Telegraph Club will be in sole possession, and have established for the benefit of its members one of the most pleasing quarters of its kind to be found in the city. A committee to secure the necessary furniture for the rooms has already been appointed and the work of rendering habitable the same already begun. Applications for membership in the organization are coming in at a rate that stamp as a success the attempt on the part of a few telegraphers at the outset to establish a rendezvous for those of their brethren who through force of circumstances, have been deprived of the comforts of a place wherein to spend their time at a minimum expense. "I think," said Ed. Delaney the other morning, "I would make one of the most successful politicians in the city." "Why?" asked Paul Sheehan. "Because," was the brevity man's reply, "I am always running ahead of my ticket—in the lunch room." Since shaving off his beard the resemblance C. I. Danforth bears to Robert Ingersoll is so striking that his many friends on the night force now address him as "Bob." Quite a number of the ladies from the office paid their respects to the memory of Mrs. Halloran, mother of Miss Annie Halloran, by visiting a couple of weeks ago the late home of the deceased and leaving a beautiful floral offering. Chief Operator Russell Riley has returned from an extended southern trip apparently in better health than he has known for years. Miss Susie Stephenson ill for some time with quinsy sore throat has resumed work. Miss Minnie Kelloch has gone with a broker firm. Mrs. Montgomery who a short time since left to accept a position with Doran Wright and Company, has returned. Joseph Leary after an absence of seven weeks on account of inflammatory rheumatism, which settled in his hands and arms dropped in on the boys a few nights ago and hopes soon to be with them permanently. Much sympathy is expressed for Mr. Pollock, whose mother died March 27th. Mrs. Adams has changed from the 7 to 4:30 trick to the 6 to 3. She is the only lady now employed on the force. No appointment made in recent years has given such general and widespread satisfaction as that of Geo. W. Gardanier, late chief in charge of the Wheatstone Department, at night to the more lucrative and responsible position of electrician of this company *vice*

Geo. Hamilton resigned. Mr. Gardanier leaves the operating department with the best wishes of all. It is gratifying to record the fact that merit has, in this case particularly, been recognized. E. G. Wood has been transferred to the 9 to 3, vice Paul Freyer 7:30 to 5 force. One of the boys on signals has taken poetic license in the following entry in the desk diary; "Four cyclones were on their way to strike this town on yesterday; but they were signal service storms and proved to be but false alarms." It is quite evident the sender of the following message had an eye to business even in the face of his great grief: "My wife died this morning. Butter is now 36 cents a pound." The dilapidated corrugated iron shutters on the Fulton street side of the building are being replaced with heavy sheet iron ones. The appointment of Chief Operator Conrad Meyer as a member of the Governing Committee of the New York Telegraph Club gives general satisfaction. Garry W. Russell whose absence for several weeks past is due to rheumatism is said to be slowly improving. He can't recover soon enough to please his many friends on the night force. Mrs. Fones, Miss M. Gowans, Miss Pohley, Miss Kingston, Miss Harris and Miss McGill have been added to the 7 A. M. to 4-30 P. M. force. Dr. Farrell after an absence of several weeks has resumed his old position on the night force. Frank Howell left last Thursday evening on a visit to the great Oklahoma country. He will probably be absent several weeks. George Blood has been added to the 6 to 3 force. The new chairs received here during the past week are a great improvement over all others in use, being more substantial and calculated to stand harder usage. Messrs J. H. Doyle, J. Skirrow, J. W. Smith, J. Flood, G. W. Skidmore, and E. N. Taylor have been added to the split trick. Messrs Sharkey and Morton have been transferred to the 7 A. M. force and Messrs Hurd, Swayze, Walton and D. Henry, to the 8 A. M. to the 5 30 P. M. force. Mills Sink rejoices the arrival at his home the other night of a bouncing boy. The ceiling near the entrance to the city line department is in bad condition. Some of the ladies say it leaks. Night Manager Sink is again on deck after an absence of several days on account of a high fever.

On Sunday, March 31st, 1889, thirty-three members of the staff of the Central Cable office, 16 Broad street, New York, visited the photographic gallery of Frank Pearsall, No. 298 Fulton street, Brooklyn, N. Y., and were photographed in a body. Mr. W. J. Dealy, the general manager, and Mr. W. B. Waycott, the local manager, occupied central positions in the group.

Mr. Thomas J. Cusack, secretary to General Superintendent Emerick, of the Postal, a few days ago received a handsome gold watch and chain on the occasion of his retirement from the presidency of a prominent Brooklyn club, after two years service in that capacity.

Mr. Wm. A. May, the well known composer, is the author of a song both words and music, which is now in press. Its title is "TRUE HEROES WERE THEY WHO DIED AT THE KEY." It is a song and chorus, and treats of the heroism of the operators who, disregarding danger remained true to duty during the yellow fever epidemic in the South.

It shows that it is as brave to do so as to go into battle, and that the names of these heroes will go down to history resplendent with glory and honor. We can furnish copies of the song at the retail price, 30 cents each. Address, J. B. Taltavall 5 Dey Street, New York.

Agent Harrison of the Northern Pacific railroad has perfected an electrical invention which rings a bell in a hotel office and registers the room number when some verdant person blows out the gas. It is very simple, and can be attached to a regular hotel annunciator at a small cost. Harrison has applied for a patent,

WANTED—To start a District Messenger and Night Watch Signal Service. Any information where such a system is needed will greatly oblige. Address, "DISTRICT MESSENGER," care ELECTRIC AGE, 5 Dey street, New York.

DIED.—John E. Zecher, a well-known operator of Philadelphia, who has been in the employ of the Postal Telegraph Cable Company, died March 19th. He was for many years manager for the Western Union Telegraph Company at Lancaster, but later accepted a position with the Baltimore and Ohio Company in Philadelphia which he held until their consolidation with the Western Union Company. He then entered the service of the Postal Company, which position he held until his death. He was an intelligent and brilliant operator, and was well thought of by his superior officials. His remains were taken to Lancaster for interment.

COMMITTED SUICIDE.—Edwin L. Shepard, a Western Union operator at New Orleans, committed suicide by hanging, April 4th. He leaves a widowed mother and a sister, who were dependent upon him for support. The New Orleans operators buried the remains. Shepard was a member of the T. M. B. A., and up to the day of his death always bore the reputation of being a steady and exemplary young man.

KILLED.—On March 30, A. R. Seaman, night operator at Tharbot Lake, Ont., jumped from a Grand Trunk train at Lansdowne, in front of another train bound in an opposite direction and was instantly killed. He was twenty-five years of age, and unmarried. He was well liked on the road.

KILLED.—Harry L. Hogue, superintendent of the electric light plant, at Fostoria, Ohio, was instantly killed, April 1, by coming in contact with the current while repairing a dynamo.

KILLED.—William Goodwin, lineman at Springfield, Ills., was run over and killed by the cars on March 24.

DIED.—Charles H. B. Patey, chief of the Postal Telegraph service at London, Eng, is dead.

MARRIED.—H. C. Pendleberry, night operator, Central City, Ky., late of W. U., Louisville, to Miss C. B. Dillen, on February 27th.

INFORMATION WANTED.—The present address of T. J. Merrick, who left Wilkesbarre, Pa., Febuary 28th, for Elizabeth, N. J. Address his mother, Mrs. A. Merrick, St. Clair, Schuylkill Co., Pa.

Trial has been begun in the United States District Court, of the suit of Frank J. Primrose against the Western Union Telegraph Company to recover damages for an error in a telegraph message. Mr. Primrose lost \$21,000 and was financially ruined because his agent in Kansas bought 500,000 pounds of wool instead of 50,000, as the telegram should have instructed. It is claimed the company is at fault, because it employed an inexperienced boy to transmit the message.

The candle in "Othell" and "Desdemona's" bedroom now being played at La Scala, is an electric light, no other form of illumination being permitted there.

THE TELEGRAPHERS' MUTUAL BENEFIT ASSOCIATION.
A FRATERNAL LIFE INSURANCE SOCIETY.

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PRICES ON APPLICATION.

Telegraphers' Mutual Aid and Literary Association of Boston,
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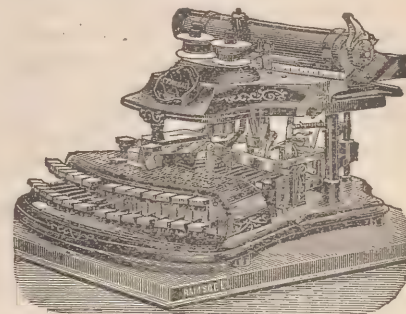
Dues, 25 cents per Month; Sick Benefit, \$7.00 per week
Death Benefit, \$50.00.

Qualifications for Membership:—Good Health, employment in Electrical Pursuits, 18 years of age, residence in vicinity of Boston.

ROBERT F. TOBIN, President,
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TELEGRAPHERS' AID SOCIETY.—G. Irving, President, J. M. Moffatt, Secretary, address 195 Broadway. Dues 50 cents per month; pays \$8 per week, and \$100 at death. Qualifications: Good health, employment in electrical pursuits, and residence in vicinity of New York. Applications solicited.

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A PERFECT TYPE-WRITER.



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The FOUNTAIN PEN consists of a highly finished hard rubber holder, fitted with superior 14-kt. GOLD PEN to suit any writer. **SIMPLEST AND CHEAPEST.**
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GRANDPA.

BY EDGAR W. COLLINS.

In these degenerated days when we hear so much of the exploits of "Jimmy" this or "Patsy" somebody else, whose only excuse for living is to drag the rising generation of operators down to their own level, it is refreshing to many to know that these satires on manhood and decency do not represent the telegraphic profession in any sense. They get together over their cups and at the free lunch counter and tell of their wonderful achievements in the telegraphic world, and the number of miles of railroad over which they have stolen their way. All this opens, the wondering ears of boyhood, and furnishes a theme that becomes threadbare from reiteration. The restless feet of the rounder are anointed with the balm of publicity, his vanity is nursed at the breast of charity and his little soul rocked in the cradle of open mouthed wonder and foolish admiration, while he who lingers about the hearth-stone of the old home and teaches lessons of a noble and just life, is seldom appreciated at his true value. The officials of telegraph companies meet and if, perchance, one mentions a deserving operator, one who has long and faithfully served his employers, as a fit subject for financial recognition, another protests, saying: "This man is a fixture here; he has bought a home and is in debt for it, and cannot quit us." Of some modern "wandering Jew," who happens to be a fine operator, when sober, they speak differently.

He must be remembered financially, because, they argue, (as if it were to his credit) he has no ties to bind him here, no little ones whose loving arms hold and press him to their hearts; he is free to go and will go, unless, they make it an object for him to stay.

This may seem an injustice to our various managers, but the fact has several times come under my observation and cannot be disputed. It is not my purpose to make any charges so broad as to cover the entire field, for I am aware that there are to-day managers here and there who *do* recognize home talent; who *do* appreciate the efforts of a noble man who has been faithful to every trust. Neither do I wish to take a single star from the hopeful sky of him who is striving to regain a lost prestige. To him who consistently knocks at the door of charity let the hand of welcome be extended; but to him who year after year dwells upon the border-land of insanity and drunken delirium, and feeds and fattens upon the deadly fruit which grows in that region, to him I say let no recognition be given, but let him sink into the darkness of oblivion with a prayer for his soul, so that his contaminating influence may not draw to the shores of the dark abyss a dozen or more of nature's noblemen later on. We should place a premium on grand and noble manhood by holding in higher esteem those who strive to set us noble examples. In this connection the introduction of one who really lived in a purer and holier atmosphere than that breathed by "Baldy Bill" or "Tanglefoot Jim" may be appreciated.

He was for years and years located in one of our western cities. His ability as an operator was never questioned. He took everything that came and filled in much that did not come. He never held down a repeater, to make somebody else beyond him break. If he got lost in the matter it was not through lack of ability, but on account of some bright spot back on life's highway, some bright picture held by unseen hands before his vision. For many years he worked the western press and he was never heard to break. And yet he never had to be "held in his chair," or stuck with pins to be kept awake. No, No, "Grandpa" was not that kind of a man. All operators, all of them make mistakes, and the one by which the old man earned the endearing title of "grandpa" came about in this way; he was receiving from a slow man (perhaps "Baldy Bill"), in Cincinnati one night, a message to "John Smith, Grand Pacific Hotel, Chicago." The old man rendered it "John Smith,

Grandpa Cific Hotel, Chicago. From that hour he was known to the profession only as "Grandpa" and nobody envied the old man his new cognomen, and nobody appreciated it more than he. Probably all will say the error was inexcusable, but was it? In this case was it? Let us see. On the day on which his old pen became momentarily untrustworthy, the old man received from a son-in-law in Kansas, a letter saying: "Your grandson arrived to day and sends love to grandpa." The old man's eyes showed signs of moisture as he explained to the boys gathered around his chair: "Yes, you young fellows think it quite a treat to get a joke on me. When I was receiving that message, my memory was wandering away back to a sun-kissed cottage by the old road in the country, where the vines and holyhocks and birds made life a little paradise. I was a school-master again and living the old days over. The ancient clock of time had gone backward for the old man. I was travelling the shady path leading to the clear spring that bubbled up from among the pebbles, was back again to the old house and peeping through the green lattice, looking again upon the sleeping baby in the cradle. The sun was dancing around and playing checkers with the baby's dimpled fingers. This was years ago, boys. That baby is now a mother, away out in Kansas. With your permission I accept the title of 'Grandpa.'" And straightway somebody hied him to the nearest cigar store and came back with a meerschaum, and in the box containing it was pasted a strip of paper which read, "To Grandpa, with the respect and esteem of all his grandchildren." Long live "Grandpa."

At the 18th annual entertainment to the Edinburgh telegraph messengers, Mr. Andrew Gray, superintendent, stated that telegraphing work was increasing day by day. Last year no less than 40,000,000 telegrams passed through the hands of the Edinburgh staff, or slightly more than 500,000 of an increase compared to the previous year. It was no uncommon thing to send out as many as 200 per hour for delivery to the public in Edinburgh. In one of the branch offices as many as 50 messages had been handed in in five minutes. On the announcement of the result of a Parliamentary election, hundreds were often handed in within a few minutes.

In the United States Circuit Court April 9, Judge Coxe approved of the disclaimer filed by The Electrical Accumulator Company, and formulated the decree and injunction restraining the Julien Electrical Company, their officers, agents and workmen from further manufacture, use or sale of secondary batteries of the Faure type, in which the active material is applied to the support in the form of a paint, paste or cement.

Masked robbers entered the office of the Canadian Pacific and Dominion Express Company at Indian Head on April 7, placed a revolver at the head of W. H. Ross, telegraph operator, and demanded the money in his keeping. Ross suddenly blew out the light and opened fire with his own revolver. The robbers made off without getting any booty.

Somebody perpetrated an "April fool" joke on the Cincinnati *Enquirer* by telegraphing from New York that Jay Gould would place \$10,000,000 at the disposal of the Central Labor Union of that city, to be used in co-operative enterprises. Think of it!

The popular manager of the Postal Telegraph Company, Milwaukee, Wisconsin, Mr. Thomas F. Ramsey, was on April 2nd elected Alderman in the third ward of that city.

The night messenger boys of the Western Union Telegraph Company, in Chicago, struck last week. They receive at present \$3 per week and have demanded \$3.50 and to get off every tenth night.

J. M. Turrell has been appointed agent for the T. M. B. A. at Vincennes, Ind., vice W. H. McDonald, resigned.

ST. LOUIS W. U. NOTES.—In printing list of day force the name of our force chief, C. V. Safford, was rendered Lafford, and Mr. Tully objects to being designated as Fully. Your correspondent left out the name of Mr. Eckert, who in point of service, is one of the oldest men on the force. The Wheatstone department, which is an adjunct to the day force, is in charge of Mr. Melville A. Hawley, with Mr. Chas. E. Cummings as assistant; Miss Rice, New York, receiver; Miss Bachle, transmitter; Miss Craven, Kansas City, receiver; M. Cummings, transmitter. Punchers—Messrs. Greiner, Hortsman, Schwender, Whiting; Misses Murray, Sinclair and Gleeson. Writers—Misses Neslage, Tremper, Schafer, Guidra, Morgan, Ehlich, Linn, Sachs, Wendling and Tynan. The Night Force—W. H. Spencer, chief; M. W. Russell, in charge of the multiplex instruments; S. B. Fairchild, wire chief; Geo. A. Riber and Jno. J. Lane, loop chiefs; E. R. Githens, way chief, and H. C. Smith, city department. Operators—Ha lon, Morrow, Sammann, Dickson, E. C. Danforth, Seaton, Keown, Appleby, Fitzpatrick, Tallis, W. E. Lane, Dye, Irons, Staley, Maddox, Ward, Johnson, Hughes, Ragland, Gosselin, Burroughs, Hogbin, R. P. Smith, Mitchell, G. A. Miller, Bohannon, H. V. Crain, Carberry, Covington, Rall, Earhart, Munz, Willhoite, Wells, Renck, McGurk and Brophie. All-night Force—David R. Ryan, chief, with Messrs. Kaut, McGeery and Slaughter; at the office of *The Globe Democrat* Fred. J. Krumling presides over a force of ten men, who are supplied from the main office; Ed. F. Burke, chief at *Republic*, has two men with him also supplied from main office. On Saturday nights Mr. E. H. Johnson (Doc.) is in charge at office of *Post Dispatch*, with six men. On the waiting list are Messrs. McCarty, Dunn, Lawrence, Lucking, Hyde, Smit, Housam, Campbell and Middlemiss.

POSTAL NOTES.—Business is good in our new office, our 8 wires East and 4 West being all worked at high pressure. There are seven sets of quadruplex in the office. The force is as follows; C. Dougherty, manager; George McGann, chief operator, assisted by Messrs. Bartlett, Hutchinson, Cook, and Misses Landrigan, Craden and Mallin. Night force: T. P. Wheeler, chief, assisted by Chas. E. Smith and Jas. McAndrews; split trick, Kyle, Scent and Hugh; Ed. Altemus, manager on 'Change. Leased circuits: Gerald G. Smyth, for Norton and Worthington; A. P. McDonald, for Jones Kennett, and Messrs. Hopkins and Sharpnack, for *The Republic*; A. K. Minor, cashier; W. A. Brueggeman, delivery clerk; Walter Anderson, night clerk; Rich'd Little, counter clerk; Miss Ada Sampson, assistant; branch office operators: Misses Miles, McCabe, Craemer, Fernholtz, McDonald, Gleitze, Fogarty, Odlum, Mullin, Brennan and Mr. Smucker.

CLEVELAND NOTES.—Business is increasing rapidly, and the prospects are good for a busy season. There are only three men waiting for extra—Messrs Gilman, Ganson and Harding. On March 19th, Mr. Jeffers and Miss Pumphrey, both of the Western Union, were married. The candy and cigars were enjoyed by all. It was one of the higher officials adjusting an instrument on a way wire. Some one called "H" and the h. o., thinking he had not forgotten the art of receiving messages answered. A few minutes later the signature was found to read D. J. C. Finold, which was quickly changed to D. J. C. Arnold. The following signature appeared on a message going to Pittsburgh: Giojjjio, Ijji. Will some one pronounce it? The latest application for a position is one from a young man 24 years old who wishes to be a check boy. He says he would like to check part of the time and practice the rest. The membership roll of the Aid Society is now 172.

H. J. Brower, an old operator, has received a patent through J. B. Sabine, for a magic lantern, which he has sold at quite a profit.

TORONTO C. P. R. NOTES.—On the 30th ultimo, C. R. Hosmer, General Manager of the C. P. R. Telegraph, passed through here, enroute via the American railways through the United States to the Pacific coast. He will return via the Canadian Pacific road, when he will inspect the Rocky Mountain Telegraph Company, of which he is also general manager, and visit the various officials of the C. P. R. Mr. Perley, member of the House of Commons, introduced a bill, on the 14th ultimo, respecting the wires of telephone, telegraph and electric light companies, providing that under certain conditions, wires must be run under ground, which was read the first time without explanation or discussion. John Small, M. P., on behalf of the Council of Toronto, introduced a similar bill, which was to take effect in this city. The bill was referred to an appointed committee, who rejected the bill as being *infra vires* the Dominion Parliament, and that it must come under the Provincial jurisdiction. As the Provincial Legislature Assembly has been prorogued, the companies involved, may rest at ease for at least another year from the great inconvenience of this most extravagant and unnecessary system.

WASHINGTON.—Mr. Walter P. Phillips, the general manager of the United Press, while in the city this week, disclosed a secret he has hitherto kept from his many friends here. It is that he is writing an elaborate historical work which is to be published early in the coming fall by a prominent New York house. The work is to be finely illustrated, and in every particular a beautiful specimen of typography. Mr. Phillips has a great deal of literary talent as well as business ability, and there is no doubt he will produce a very interesting and attractive work, and one likely to be popular. In the field of fiction he has done considerable high-class work, all of his stories showing remarkable skill, brilliancy, and originality, and as a historian it is likely he will be as successful.

SYRACUSE NOTES.—Wm. A. Armstrong, formerly with the Western Union, has accepted a position with a broker at Boston, Mass. Miss Kittie Slattery, operator at the Leland Hotel, is convalescing after a severe attack of pneumonia. During her absence the place is being filled by Miss Hattie Shelley. A good story is told of Adelbert Hinchy, recently deceased, who was formerly operator and ticket agent at Fulton, N. Y., for the New York, Ontario and Western railroad. Mr. Hinchy stuttered and the story which is told in connection with this provokes a smile by its quaint, ready wit. "He was standing at the window one day, busy stamping and retailing tickets, when a man rushed up and hurriedly exclaimed, 'Does this train outside take me direct to Oswego?'"

"'It d—does if you p—pay' was the ready reply.

"'If I go straight down and come back on the next train, how long will it take me?'"

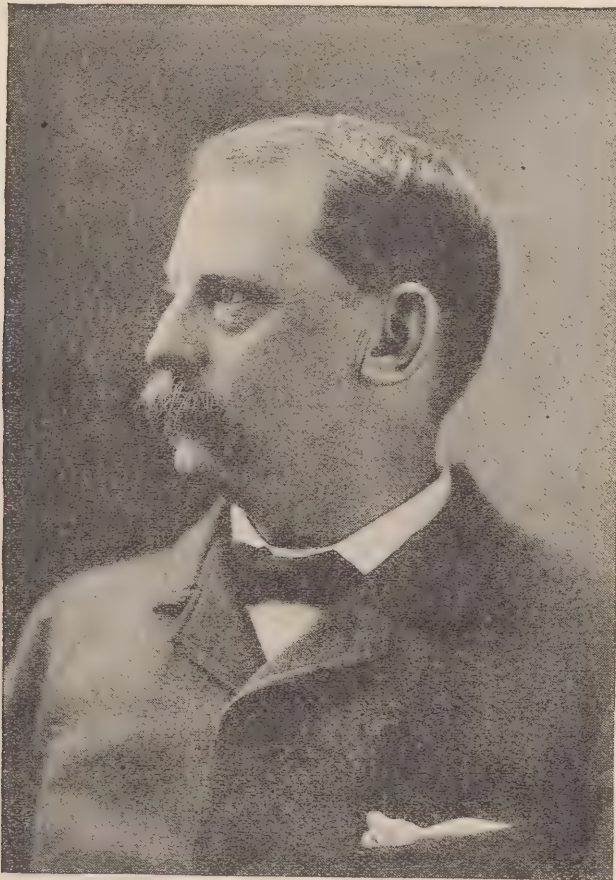
"'T—t—t'—stuttered Mr. Hinchy; but the 'two' would not come forth. His excitement increased every moment, and his exasperation continually increased as he found it impossible to pronounce the words. Finally he broke forth, 'D—— it you can g—go down and b—back before I can t—tell you.'"

BLOOMINGTON, ILL., NOTES.—Mr. M. B. Hamblin, manager of the Western Union, has resigned and gone to Wisconsin for the benefit of his health. He is succeeded by Mr. W. J. Noble. Miss Grace Hand, of San Jose, works Chicago. Mr. John Tracy from Chicago takes the night report. Miss Sadie C. Moore has resigned, and Miss Morley takes her place as bookkeeper. It is rumored that the Postal Company is to open here in a short time. Everybody is happy and wishes the AGE success.

The railroad superintendents meet in New York city, May 8th.

BIOGRAPHICAL SKETCHES.

John J. Dickey, superintendent of the Western Union Telegraph Company, Omaha, Nebraska, was born in Rushville, Ill., April 11, 1839. His father, Hon. T. Lyle Dickey, the late Chief Justice of the Supreme Court of Illinois, moved to Ottawa where young Dickey spent his boyhood until 1858. Judge Caton, then president of the Illinois and Mississippi Telegraph Company, who was a near neighbor, encouraged him to learn telegraphing. This, without any design to follow it, he soon acquired. From 1859 to 1863, having become an expert, he served as operator at various places on the Chicago and Rock Island Railroad, in all of which he showed so much aptitude and ability, that in 1863 he became manager at Ottawa, Ill., the headquarters of the company and had charge of the company's general books.



Superintendent JOHN J. DICKEY, Omaha, Ne

After the consolidation of the Caton lines with the Western Union Company, Mr. Dickey became chief clerk in the office of the Western Union superintendent at Chicago until August, 1869, when he was offered and accepted the appointment of superintendent of telegraph of the Union Pacific Railway, branches and leased lines. In connection with the duties of this appointment, he built the western lines of the Atlantic and Pacific and American Union Telegraph Companies. On the consolidation of these companies with the Western Union, Mr. Dickey was appointed superintendent of the third district central division, embracing the country west of the Missouri River and east of Nevada and Oregon, while still retaining the superintendency of the telegraphs of the Union Pacific Railway.

During the past nine years, Mr. Dickey has made large investments in telephone property, and is vice-president of the Nebraska Telephone and of the Rocky Mountain Bell Telephone Companies.

To Mr. Dickey's enterprise and industry is due the establishment of the American District service at Omaha, Den-

ver, Salt Lake City and other places, and the organization of the Midland Electric Company at Omaha for the provision of electric supplies. Mr. Dickey is one of the most thoroughly wide awake, active and efficient men in the Western service.

In August, 1887, Mr. Dickey's district was so largely increased that he gave up the detail supervision of the Union Pacific Railway lines and has since devoted himself exclusively to the interests of the Western Union Company. This district now has wires and offices in fifteen states and territories.

J. EDWIN PALMER, MANAGER WESTERN UNION, OGDEN, UTAH.

J. Edwin Palmer was born in Kirby, Caledonia County,



Manager J. E. PALMER, Ogden, Utah.

Vermont, on January 22, 1842. His boyhood was spent on a farm, and his education was obtained principally at the public school at Morrisania, N. Y., from 1855 to 1860. He commenced telegraphy on a private line in Pittsburgh, Pa., in 1865, and during the next three years he worked at different points on the Cleveland and Pittsburgh, and the Pittsburgh, Cincinnati and St. Louis Railroads. In 1870, Mr. Palmer entered the Western Union service, Pittsburgh, where he worked as operator, quad chief, night manager and wire chief until 1883, when he removed west working in Ogden, Utah, Virginia City, Nev., and on the D. and R. G. Ry. On May 1st, 1887, Mr. Palmer was appointed manager of the Ogden office, which position he still holds. He enjoys the good will of the entire fraternity and the confidence of his superior officers.

Mr. E. Perkins, 195 Broadway, New York, is said to have invented a new type of relay which is much cheaper and of greater utility than those now used by the telegraph companies.

KANSAS CITY NOTES.—The W. U. Office here, like all the other large offices, has its many comers and goers; when business is good the goers are few, as the men are all well pleased with the chiefs, and the way the office is run. The day force is as follows:—M. D. Wood, Manager; Geo. W. Brownson, chief operator; Horace M. Scholes, assistant chief, Frank E. Redline and L. N. Boone, wire chiefs; Peter F. Depew, traffic chief; Alfred V. Cutler, way chief; James J. Ring, number clerk. The Morse operators are; Sam'l G. Teter, Claude Powell, Gideon Huscher, Wm. A. Schuman, Miss Ada B. Chiles, Mr. and Mrs. Harry E. Bender, Miss Kittie Marr, Miss Kittie B. Lynott, Michael Dillon Mrs. E. A. Dyer, Mrs. J. H. Manter nee Miss Jennie Flanders. Wm. Exley, Dan'l A. Williams, Harry K. Carson; Thomas J. Myers, Ed. W. Peck, Park F. Meigs, Gus Thomas, Benj. F. Jackson James N. Harper, Chas. Bierschmidt, Robt. E. Norman, Miss Nettie Eisfelder, Miss Annie E. Reid Wm. A. Peache, Wm. Wood, Louis Lesem, Fred C. Lesem, Marvin E. Duff, Isaac J. McDonald, Miss Mattie Van Ausdall, Fred B. Ford, Jno. W. Bowman, Chas. E. Bruce, W. A. McDermott, Leon B. Van Voorhis, Roger N. Cresap, Julian B. Forbes, Sam'l A. Dunning. Split trick: Chas. Howard, Wm. R. Mitchell, Dan'l Minihan, Jno. E. Ferris, Louis C. Barder, David Grant, Edw. P. McWatty, Sam'l Davis, Josiah Tindell, Grant L. Hoff, Chas. E. Grass, Chas. H. Ebert, Sam'l J. Thomas, Jeff. D. Dickinson, Jno. J. Wolfrum. Night force: Dan'l E. Martyn, night chief; Henry J. Dunn, assistant night chief; Sam'l W. Atkinson, traffic chief; Michael S. Higgins, way chief; Chas. E. Bacmeister, all night chief. The operators are: Chas. E. Ferris, Jno. Coady, Wm. W. Flynn, Robert G. Davidson, Chas. W. Killen, Aaron H. Saylor, Elmer E. Doggett, Chas. E. Wineland, James E. Lewis, Tony F. Saunders, Wm. M. Skillen, Warren M. Hannon, Jno. Meridith, Geo. R. Kent, John J. Sullivan, Frank C. Williams, Wm. S. Ward, Wm. E. Jones, Edw. P. Fisher. The substitutes are: Miss Vina Walters, Rush E. Castelaw, Miss Wonny McConaha, Miss Minnie M. Sharon, C. E. Shinn, Dan'l A. Martyn, Wm. A. Schwartz, Jno. G. Connor, Henry B. Cerraney, Mrs. Ada B. Crawford, Miss Sarah F. Cook, A. C. Harper, and Miss Lizzie J. Lovelace. Mr. A. A. Hatch is chief of the wheatstone department and Miss Luella Milby assistant chief. The Wheatstone has 40 copyists and about 10 punchers. There was some talk of running the Wheatstone with Chicago till 11 P. M. every night, but it is doubtful. Messrs. Powell and Ebert are east visiting relatives, Messrs. Coady and Minihan and Miss Marr are on the sick list, but expect to resume work soon. Night chief Martyn left for Detroit, Mich., the 3d inst. to visit his mother; Mr. Martyn has been here thirteen years, and this is his first lay off. He expects to be gone three weeks. He has had the best wishes of his many friends, both of the day and night force. Henry J. Dunn is in charge during Mr. Martyn's absence. The day wire chiefs Boone and Redline take turns about in looking after Mr. Dunn's work at the board and quads.

WILLIAMSPORT, PA., NOTES.—The arrivals since last letter are: Mr. W. Rhoades, from Mauch Chunk, Pa. Wm. Vanderpool from Altoona; Wm. Shuman, from Elizabeth, N. J. The departures are: Mr. J. C. Gilhouse, one of the finest Press and C. N. D. operators in this section. He left with the best wishes of the craft. Mr. Harry Fritz, West; M. Eldon, East; Thomas H. O'Neil, Manager of the District system resigned and is now engaged in the electric light business at Baltimore, Md; Mr. W. J. O'Brien, from Binghamton N. Y. has been appointed manager of District service with Mr. John E. Driscoll, of Trenton, N. J., assistant. H. H. Russell has been appointed resident lineman in place of J. H. Kilmore deceased; the latter's untimely death cast a gloom over us all. Williamsport is proud of her telephone Exchange Manager, S. M. Boush; and Chief Operator Harry Heiser and eight pretty young ladies are

kept busy handling commercial business and attending to a 400 wire switch. Mr. Frank B. Fritz, the night report man, of the Western Union, attained his majority April 8th, and is a full fledged operator.

BALTIMORE NOTES.—Mr. Geo. W. Plummer of the Western Union force in this city died on April 5th, of consumption, aged 29 years. The funeral took place from his late residence 1229 East Monument Street, and was largely attended by the Baltimore telegraphers, to whom he was very generally known, having been in the employ of the B. & O company here for more than ten years prior to the consolidation. Landmark Lodge of Masons, and the American Legion of Honor were also well represented. The high esteem in which Mr. Plummer was held by his brother operators was very evident indeed. Nearly all present were effected to tears during the services, at the house, which were conducted by Rev. I. C. Burke, of the Third English Lutheran. He spoke very feelingly of the sympathy and kindness shown to the deceased by his fellow craftsmen during his last illness in taking his place at the key every night, each one in turn, for five or six weeks prior to his death, that his name might be kept on the pay roll, and thanked them in his name for all that had been done. Mr. Burke was a personal friend of Mr. Plummer and his family and as he stood beside the coffin looking down at the upturned face of our departed brother, and now at the mourning relatives seated around it, his earnest words of comfort, and counsel addressed to the group of men standing in the rear most of whom were Mr. Plummer's intimate associates, in early manhood, like himself, and having had very much in common with him made an impression that will not speedily be effaced. Mr. A. C. Forrester of the day force and Mr. G. Clark of the night force have exchanged tricks for a short time.

Mr. Haden Gentry Jr. veteran manager of the Produce District of the Western Union this city, was presented with a fine son a few days ago. Mr. Gentry is the father of two first class operators, both of whom are employed by the W. U. Haden has not decided whether to make a first class operator of the new comer, but he evidently will take lessons in "switching," and may be found on the "ground" occasionally. C. H. Bonneson of the 2nd Dist A. D. T. Co. and Walter Staylor, relief operator for the same company, have exchanged tricks.

Robert Garrett's general health is said to continue fair, but his mental vagaries are as pronounced as ever.

At New Haven recently Thomas J. Osborn wrote 103 words of memorized matter on the typewriter in half a minute—breaking the record.

The popular young actor and ex-operator Mr. Frank Hennig, now playing with Mr. Thomas W. Keene, the tragedean, was in Newark last week and received flattering notices from the press of that city. Mr. Hennig was the guest of Mr. Edward J. Murphy, manager Postal, in Newark, during his stay in town.

Mr. C. H. Newman, manager Postal, Rochester, N. Y., is again at his desk after an illness of three weeks.

The Chinese minister at Washington, expends more money in telegram and cable dispatches than the government of the United States. His expenditures in telegraphing reach an average of \$1,000 a week. One day recently he spent \$2,000 in sending dispatches to China.

Heretofore the Western Union telegraph wires have been supported upon two lines of poles extending from Omaha to Ogden. They are now substituting larger and stronger poles, and making one line of poles carry all the wires.

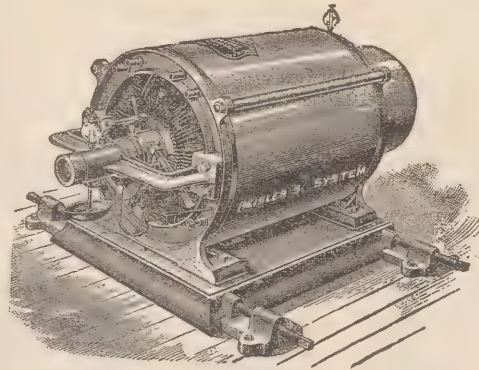
Henry Kurtz, a young telegraph operator, of Baltimore, died on Wednesday morning from an overdose of laudanum. Whether it was taken with suicidal intent or not is unknown.

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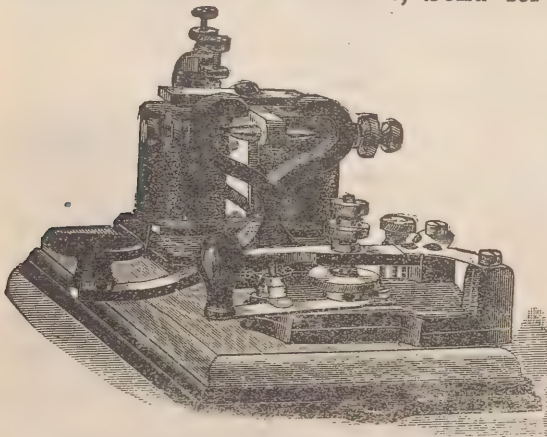
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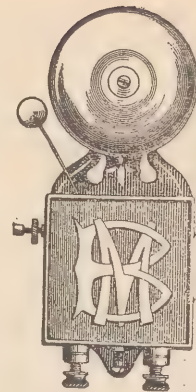
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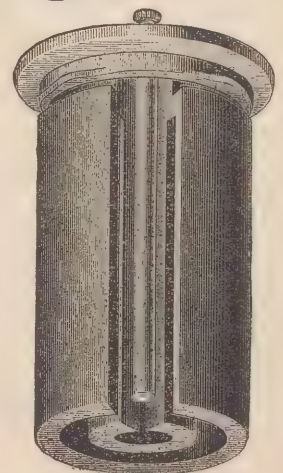
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Dr. Rengard, the French scientist, is opposed to the use of electricity in capital punishment as being horribly agonizing and uncertain. "Cut their heads off," says the Doctor, "and be done with it."

A LARGE CABLE.—The Telegraph Construction and Maintenance Company, London, has just manufactured for the post-office the largest shore end cable which has hitherto been constructed. The cable is a 4-core one, and is very heavily armored, weighing nearly 28 tons per mile.

The town council of Paris offers a prize of £400 to the inventor of the most reliable system of computing the quantities of electric light used, and five other prizes of £80.

A. B. Chandler, president of the Postal Telegraph Co., and G. G. Ward, general manager of the Commercial Cable Company were in Chicago last week.

Mr. Frank R. Kasper of Newburgh, was in town a few days ago visiting friends.

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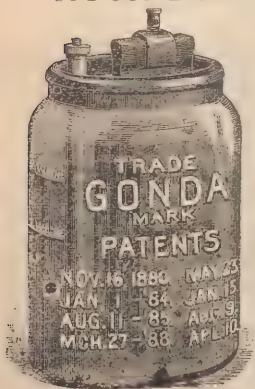
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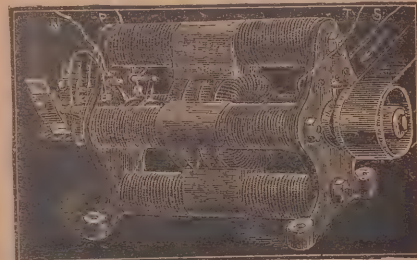
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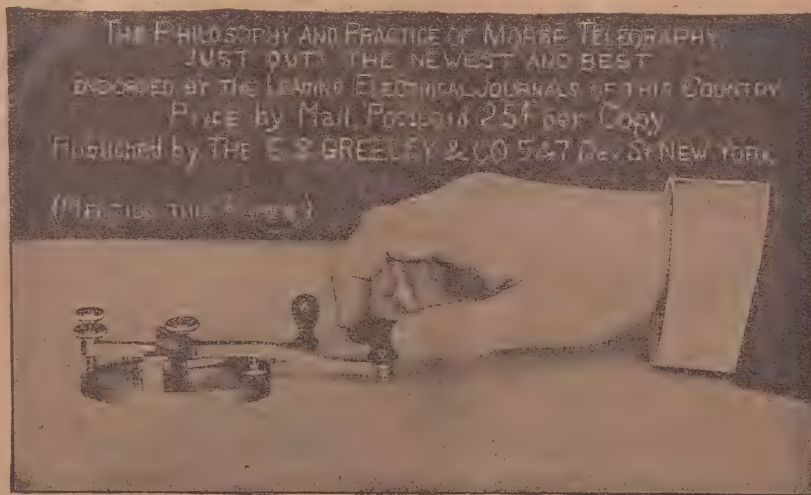
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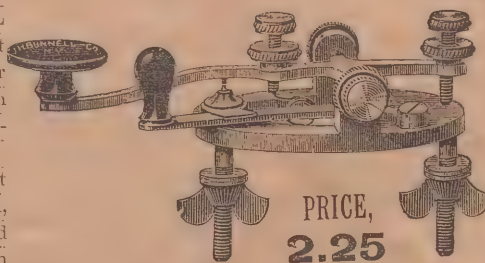
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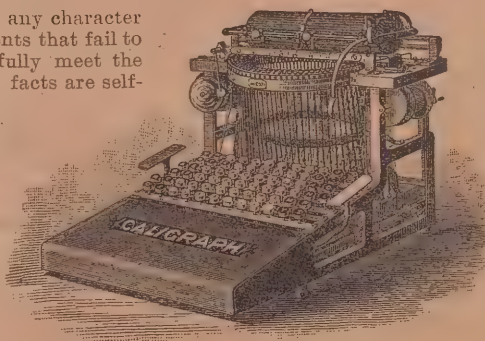
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THE COMMERCIAL GAZETTE.

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Cincinnati, O.

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Very truly yours, Signed; Frank B. Ross, Opr., Commercial Gazette, October 5th, 1885.

C. G. Muller, Esq., Agent Caligraph, Cincinnati, O.

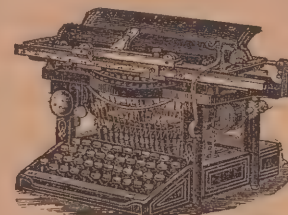
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NEW YORK, MAY 1, 1889.

AGREEMENT OF RATES.—On May 1 an agreement will go into effect between the Western Union and the Postal Telegraph Companies, whereby the telegraph tolls will be maintained on the land lines and cables of both concerns. This is a natural outcome of the recent agreement between the competing cable companies to raise their tariffs to a higher and fixed rate. The agreement regarding land tolls was reached three weeks ago at a conference here between Col. Clowry, vice-president and general manager of the western and central divisions of the Western Union system; President A. B. Chandler, of the Postal Telegraph Cable Company; President Norvin Green, of the Western Union, and John W. Mackey, president of the Commercial Cable Company.

As for the prospective raising of rates to the Western Union standard, it is semi-officially intimated that the United Lines Telegraph Company, having become satisfied that the rates charged by the Western Union were as low as telegraphic service could be performed for, was willing to raise its rates if the dummy Mutual Union offices could be got rid of. The matter came to a head during the visit East of Col. Clowry, who, learning from President Chandler, of the Postal Company, just how the land lay, communicated with the heads of his own company. The details of the compromise were left to Messrs. Clowry and Chandler, and when they were in proper shape President Mackey and President Green stepped in and clinched the bargain. A memorandum was drawn up binding the contracting parties to adopt a parallel scale on all messages. Thus the telegraph business is practically pooled, though the receipts are not. This arrangement nominally to remain in force until May 1, 1890. The Western Union officials say:

"Yes, there is to be an equalization of the land tolls and they are to be put up to previous Western Union prices; but there has been no consolidation, not even a pooling of the business. We agree to shut up all our Mutual Union offices, which never paid expenses, and the United Lines come up to our standard. Naturally they got tired of losing money, and as soon as our people ascertained their willingness to extend the cable peace rates to the land service we were quite ready to meet them half way. The new schedule will not affect the public very much, for there is only a difference of five cents on ordinary messages between the principal cities. It is

simply a business arrangement, and the only bond is a simple memorandum in order that there may be something to refer to hereafter. Though the bargain is ostensibly made for one year, I see no reason why it should not continue permanently. It is not consolidation, but only an amicable peace. As for the current of business I do not think there will be any disturbance. It will be simply who can give the best service.

The Postal Company, which controls the United Lines as a part of its land system, has not been making money because the Western Union maintained Mutual Union offices at all principal points, charging reduced rates. It has been found necessary to adopt a uniform rate for land service which will enable both to make some money. The extension of the Postal system will not be stopped. They expect to reach Birmingham, Ala., this year, and perhaps get to New Orleans during the Fall. This is not a consideration. The two systems will remain separate and distinct. Ever since the Baltimore and Ohio lines were withdrawn from the struggle it has been felt by telegraph men that a mutual understanding between competing lines must come."

Jay Gould has astonished the people of New York during the past two weeks by precipitating a quarrel with Mayor Grant, the Subway Commissioners, and the public generally. His methods of carrying on the warfare, however, are treacherous as well as dangerous. First he claimed the right to string cables along the elevated roads on the ground that these roads are post routes. After winning his point in this particular, he sets up a counter claim that the elevated roads are private property and cut therefrom and threw into the streets the Fire Department wires, which were temporarily attached to the Elevated Railroad structure, both endangering life and property. If the Elevated roads are declared to be public highways, Gould will undoubtedly be prosecuted. Judge Wallace enjoined the city from interfering with Western Union wires on the Elevated structure, but refused to embody a clause providing for running the wires to and from the structure. Cables connecting branch offices with the main office, via the Elevated structure, were severed by order of the Commissioners probably in retaliation and to head off Gould's obstruction. It is remarkable how many rotten poles were cut, or fell down of their own weight, on crowded thoroughfares. Dozens of poles were held up in position by the wires attached to them. Jay Gould is a powerful man, but Mayor Grant is more powerful.

Superintendent Tuttle, of the North American Telegraph Co., unhesitatingly declares postal telegraphy to be in absolute antagonism to the development and the better service to be obtained from the system. "Telegraphy," he said, "is something into which one must grow by practice. Good and efficient operators are those who have made the handling of the sounder a study, and who have profited by long experience. The same idea holds good in all the various branches connected with the building, operating and managing of a large system of telegraphic lines. The history of governmental positions has been a history of changes which even civil service has not entirely succeeded in abolishing. A system of changes is unquestionably detrimental to the perfect and successful working of telegraphy."

The Shaver Acoustic Telephone Company has been awarded a contract to put in about one hundred lines for acoustic telephones, connecting the different departments with the main offices of the United States Rolling Stock Company, at Hegewisch, Ill., Anniston and Decatur, Ala.

Successful trials of electric railways have been conducted in London, England, and general satisfaction seems to be the result. Electricity on the rail will solve the "smoke, cinders, etc." problem in the London railway tunnels.

A SKETCH OF THE HISTORY, DEVELOPMENT AND PRACTICAL APPLICATION OF THE ELECTRICAL CONDENSER.

BY WM. MAVER, JR.

From *The Electrical Engineer*, New York.

(Continued from last issue.)

Another ingenious and useful application of the condenser, due to C. F. Varley; is that shown in figure 12. It was originally devised by Varley as a means of prolonging a signal which had been made by a momentary contact at the local contact points of the relay r . This the condenser c does by receiving a charge due to the difference of potential produced by the resistance of the recording instrument r' at the moment of contact, and by discharging itself through the coil in the same direction as the current from the local battery B .

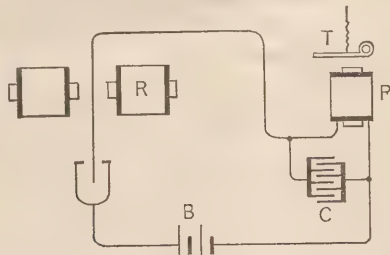


Fig. 12.

This principle is availed of also to advantage in the Delaney multiplex system of telegraphy in which the signals are made up of momentary contacts. It has also been used successfully in several automatic systems to prolong signals, and in quadruplex telegraphy for the same purpose.

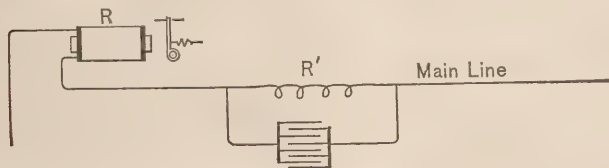


Fig. 13.

Another arrangement of the condenser (figure 13), is that in which its discharge is used in automatic telegraphy to reverse rapidly the magnetism of a relay, r . r' is a plain resistance producing a difference of potential between the plates of the condenser. At the moment of reversal of the battery a portion of the discharging current at once reverses the relay r . A modification of this use of the condenser is also employed in quadruplex telegraphy to facilitate the reversals of magnetic polarity. The condenser has also been used in automatic telegraphy for the purpose of curtailing signals.

A very useful application of the condenser, which is also due to C. F. Varley, is that in which it serves as a repeater or translator of signals in simultaneous Morse telegraphy and telephony, in combination fire alarm telegraph and telephone systems and in simultaneous Morse telegraph systems using pulsatory currents, such as the Edison phonoplex, etc.

In these systems it not only acts as a translator of the signals but also prevents the grounding of the Morse circuits which would otherwise ensue, as when, for instance, a telephonic circuit is operated on a metallic circuit composed of two Morse telegraph wires, as shown in figure 14.

In certain methods of telegraphing to and from moving trains, also, the condenser is indispensable. The same instrument is also of much value as a graduator of the telegraph currents in the Van Rysselberghe system of simultaneous telegraphy and telephony, (c. g., figure 14). It has also been employed advantageously in this country as a means of preventing induction between parallel wires.

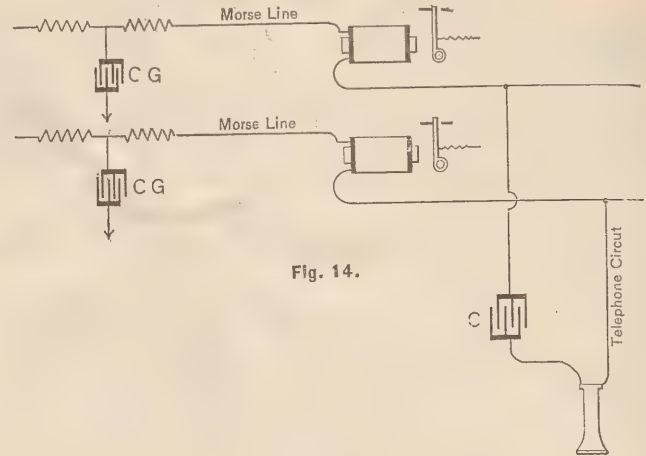


Fig. 14.

In the operation of long submarine cables the importance of the condenser is very great, and it is employed on such circuits in a number of different ways and for different purposes, as for example, to prevent the ill effects of earth currents, to avoid which, without the condenser or its equivalent, would necessitate the employment of looped cable circuits. In other words, the price of a duplicate for every existing long submarine line is virtually saved by the use of this simple instrument.

The most important and valuable application of the condenser, however, is probably to be found in its use as a static compensator in duplex and quadruplex telegraphy.

In the most successful systems of duplex telegraphy the home instruments are prevented from being sensibly affected by the home battery by means of certain arrangements of the apparatus (differential winding or the bridge method) and the employment of a so called artificial line, consisting generally of German-silver wire g , figure 15, which wire may be made to equal the main line in point of electrical resistance. This wire, however, has practically no electro-static capacity, and as this inequality of capacity between the main and artificial lines would tend to produce confusion of signals, the artificial line is given electro-static capacity, equal to that of the main line wire, by the attachment to it of a condenser or condensers in the manner indicated in figure 15.

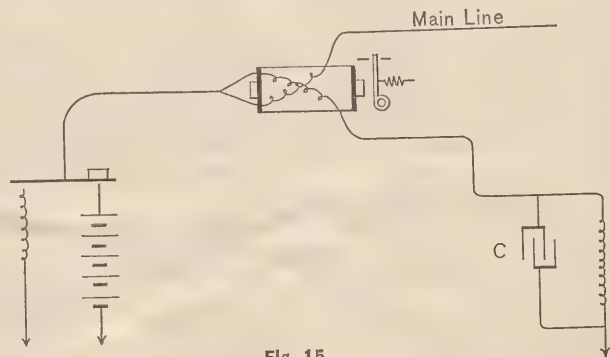


Fig. 15.

As previously stated, the Muirhead condenser used in long submarine cables is a nearer approach to the main line or cable in all respects than the usual condenser arrangement, but it is somewhat more expensive.

It is safe to assume that there is no substitute for the condenser as a "static compensator" in submarine cable duplex telegraphy, and no practically successful substitute for it in overland duplex telegraphy, and, further, it may be assumed that a large majority of the duplexed lines in this and other countries require a static compensator, and, therefore, the bulk of the duplexed circuits in operation would be practically inoperative without that instrument. On these assumptions the money value of the condenser as a static compensator may be estimated at millions of dollars.

The Baltimore and Ohio Telegraph Co. alone, by the use of this instrument, were enabled to operate many thousand miles of duplex and quadruplex circuits which, without it, could not have been successfully accomplished.

In electrical testing the condenser is also of great service, as in the measurement of electro-static capacity of cables; in the testing of joints; in measuring electro-motive force; the internal resistance of batteries; insulation resistance by loss of charge; localizing breaks in insulated wire by capacity tests; in the nil method of testing resistances; and in measuring the resistances of batteries while working.

(CONCLUDED.)

London *Iron* states that "A new source of electricity has been discovered by Professor Braun, of Tübingen. Hitherto it was found impossible to transform mechanical work direct into electricity. The German professor says that he has succeeded in doing this. Physicists have known for some time that currents may be produced in metal wires by bending them. Professor Braun has found that nickel wire develops the strongest currents by winding it into a spiral, and connecting its ends with a delicate measuring apparatus (multiplier). The pointer of the multiplier deflected considerably according as the spiral was elongated or compressed, showing that relatively strong currents were created; the current flowing during the elongation of the spiral in a direction opposite to that in which the wire had been run in its passage through the draw-plate.

The Heisler Electric Light Co., of St. Louis, Mo., have closed a contract with the Illinois Valley Electric Light and Power Co. for an electric light plant for the towns of Ottawa, Marseilles and Seneca, Ill. The station will be located at Ottawa, as the center point of the system, from which all three of the towns will be furnished with commercial and street lights. Long distance is one of the special features of the Heisler System, for which reason it is particularly adapted to the wants of small towns neighborly enough to co-operate in works of a quasi-public character.

Direct circuits from the floors of the Stock, Produce, and Petroleum Exchanges to the cable station at North Sydney, C. B., and Canso, N. S., have been established by the Western Union Company. Thus the three leading American exchanges are brought into almost instantaneous communication with the markets of the old world. W. L. Brown is in charge at the Stock Exchange, George Read at the Produce, and Douglas McKenzie at the Petroleum.

The American District Messenger Company and Western Union Telegraph Company have moved into offices at No. 68 West 125th street. The office is open all night. A burglar-alarm service is in operation. Manager Ulyses S. Dunn is the pink of courtesy, and has hosts of friends.

An operator in a western city was sending very unreadable stuff and when he had finished the receiver asked what school he had graduated from, a man in a neighboring city broke in and answered, "Hamburg."

ARC LIGHTING.

A BUFFALO ELECTRICIAN GIVES AN INTERESTING LECTURE.

At the regular meeting of the Buffalo Electrical Society, held April 16, Mr. Frank G. Raichle, electrician for the Thomson-Houston Electric Light Company, presented a very interesting and instructive paper on "Arc Lighting."

Mr. Raichle said the subject was a broad one and might be subdivided into a study of light itself and the analysis of its spectrum, the endless varieties of mechanical and electrical devices controlling the length of the arc, the regulation of the source of electrical supply, the energy absorbed, heat developed, manufacture of the carbons, etc.

The electric light, the lecturer said, was prevented from coming into practical use so long as the necessary current could not be obtained from any cheaper source than the voltaic battery; hence years elapsed before the light made its way from the laboratory of the physicists to our streets. Faraday's discovery of induction in 1831 gave the means of obtaining this current for practical use, and all the generators of the present day make use of this discovery, viz: "The current is induced in a closed coil revolving in a magnetic field."

The vast superiority, Mr. Raichle said, of electricity as an illuminant over all other methods of illumination seemed to be but partially known to the public. From a sanitary view the superiority is easily recognized from two points. First, the heat produced by the "voltaic arc" is very intense and exceedingly small in quantity. A gas burner produces for an equal amount of light about 100 times more heat than the voltaic arc. Second, the arc light deprives the air of a very small quantity of oxygen (the incandescent light none at all) and does not produce any noxious gases like carbonic acid, sulphur dioxide and others, which mingle with the atmosphere and vitiate it. Some further advantages of electric light are its non-explosive properties, freedom from odor, and its quality, the most delicate shades of color being easily distinguished by its means.

The lecturer continued by saying that if two carbons be in contact and a current of electricity is flowing in the circuit when the carbons are separated a short distance, the circuit is not interrupted, but there is formed between the points a bridge or arc of incandescent particles. The increased resistance which is offered to the flow of current by this space causes intense heat. The disintegrated particles as well as the ends of the carbons are rendered luminous by this heat. This then is what gives us the electric arc light, the intensity of the light depending upon the amount of current used and the character of the carbons.

The carbons are consumed, and consequently the arc becomes longer, hence the light would be extinguished were the arc allowed to lengthen to such an extent that the current would no longer traverse the intervening layer of air. To prevent this each lamp is controlled electrically in such a manner that the carbons are kept at a standard distance apart.

The lecturer dwelt at some length on technical points in connection with arc lighting, and concluded by performing various experiments and projecting on a screen the image of carbon points of the arc lamp, showing the colors produced, etc.

The next meeting of the Society will be held on May 6, when Mr. J. P. Chapin of the United States Electric Light Company will lecture.

Mr. Elmer E. Vance, of Columbus, Ohio, was in New York last week arranging for the production of a play next September, of which he is the author. His friends anticipate that the production will be a success.

EXPERIMENTS IN MAGNETISM.

By GEO. M. HOPKINS, in *Scientific American*.

Nature furnishes permanent magnets "ready made," the lodestone being an example of such a magnet. She is able to induce magnetism in magnetic bodies, the earth itself being the great magnet by which the induction effects are secured. It is to the directive force of this great magnet that the compass owes its value,



Fig. 1. MAGNETISM BY INDUCTION FROM THE EARTH.

The magnetism of the lodestone is due, doubtless, to a long exposure to the inductive influence of the earth's magnetism. Any body of magnetic material becomes temporarily magnetized to some extent when placed in the magnetic meridian parallel with the dipping needle, and if it be a body like soft iron, without coercive force, it loses its magnetism when arranged at right angles to this position in the same plane. This may be readily demonstrated by placing a rod of well annealed wrought iron in the magnetic in an inclined position, as indicated in dotted lines in Fig. 1, with its upper end in close proximity to the end of a compass needle. The needle will be instantly deflected, showing that the rod has become magnetic. When turned in the plane of the magnetic meridian to a position at right angles to its former position, it will lose its magnetism, and will therefore be no longer able to repel the needle. By placing a bar of hardened steel in the magnetic meridian and striking it several blows on the end with a hammer, it becomes permanently magnetic, not strongly, but sufficiently to exhibit polarity when presented to a magnetic needle.

By twisting a rod of soft iron having one of its ends in proximity to a magnetic needle, it is shown by the deflection of the needle that magnetism is developed by torsion. By this and similar experiments it may be shown that stress and compression favor magnetization.



Fig. 2. DEVELOPMENT OF MAGNETISM BY TORSION.

Artificial magnets are produced by the contact of hardened steel with magnets or by means of the voltaic current. The latter is the more effective method, provided a strong current and a suitable helix or electro-magnet is available. For the magnetization of bars of steel a helix like that shown in Fig. 2 is needed. Its size and the amount of current required will, of course, depend upon the size of the bar to be magnetized. For all bars up to $\frac{3}{8}$ inch diameter, a helix $\frac{5}{8}$ inch in internal diameter, 2 inches external diameter, and $2\frac{1}{2}$ inches long, made of No. 16 magnet wire, is sufficient. A current from five or six cells plunging bichromate battery is required, or in lieu thereof a similar current from a dynamo.

The bar to be magnetized is hardened at the ends and placed in the helix, the current is then applied, and the helix is moved from the center of the bar to one end, then to the opposite end and back to the center, when the current is discontinued, and the bar is removed. If several bars are to be magnetized, they may be placed end to end,

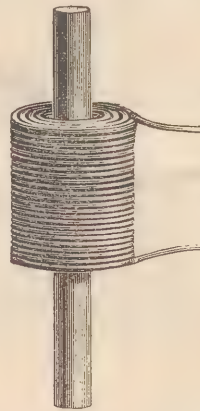


Fig. 3. MAGNETIZATION OF BARS.

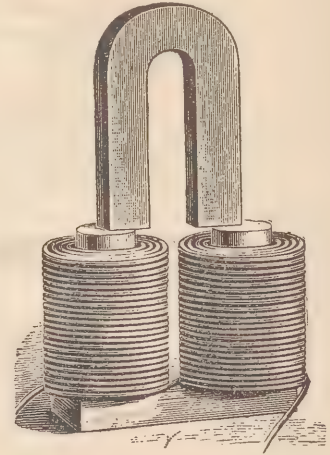


Fig. 4. MAGNETIZATION OF U-SHAPED BARS.

and passed through the coil in succession. The magnetization of U-shaped bars may be accomplished by means of an electro-magnet formed of two coils, above described, and a suitable soft iron core. The U-shaped bar is placed on the poles of the electro-magnet as shown, when the current is sent through the coils for a short turn and then interrupted. Another method, which is perhaps more effectual, consists in drawing the U-shaped bar several times across the poles of the electro-magnet.

In the search for perpetual motion, vain efforts have been made to discover a substance which could be interposed between the magnet and its armature, and removed without the expenditure of power, and which would intercept the lines of force, so as to allow the armature to be alternately drawn forward and released, but no such substance has ever been discovered. The lines of force

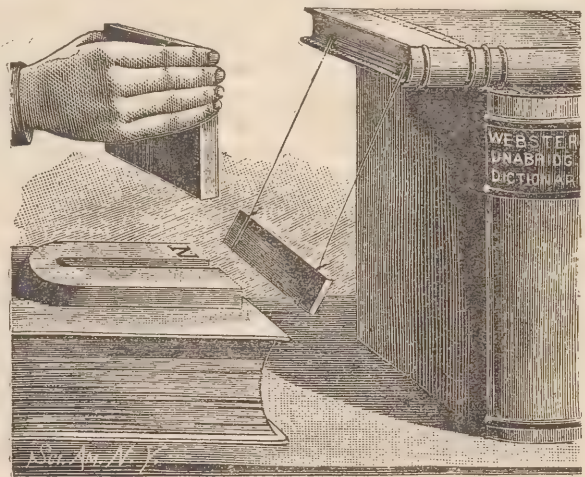


Fig. 5. MOTION PRODUCED BY A PERMANENT MAGNET,

may be intercepted by a plate of soft iron placed between the magnet and its armature, but it requires more power to introduce the plate into the magnetic field, and withdraw it therefrom, than can be recovered from the armature. Fig. 5 illustrates an experiment showing how motion may be produced by the force of a permanent magnet. An armature is suspended by threads in the field of

a permanent magnet. The magnet attracts the armature, slightly deflecting its suspension from a true vertical line. The introduction of a soft iron plate between the magnet and its armature intercepts the lines of force, thus releasing the armature, when it swings back under the influence of gravitation. If at this instant the iron plate is withdrawn, the magnet again acts upon the armature, drawing it forward. Another introduction of the iron plate into the field again releases the armature, when it swings back, this time a little farther than before. By moving the iron plate in this manner synchronously with the oscillations of the armature, the armature may be made to swing through a large arc.

Commissioner Gibbens had a Western Union cable running from the Elevated structure into the office at the northwest corner of Sixth avenue and Forty-second street chopped down on April 23, and four circuits were rendered useless. As the Company threatened to have the cable repaired, a section of it was chopped off and carried away. Communication was not restored with the office at No. 664 Sixth avenue, and the Company will probably have some more idle operators uptown after another day's work is done. The operators in the disconnected offices were ordered to remain on duty, and communication will probably be restored through the subways or over the housetops.

The certificate of incorporation of the Edison General Electric Company was filed with the Secretary of State in Albany April 23, and the New York City lawyers of the Company paid to the State Treasurer \$15,000, the State tax of one-eighth of 1 per cent. on the capital, payable by all newly incorporated companies. The new company is formed by Henry Villard and Thomas A. Edison and associates to carry out the recently perfected arrangements for consolidating the Edison Electric Light and Manufacturing Companies. The capital stock of the Company is \$12,000,000.

In soldering copper wire for electrical work acid is often used, and the resulting "greenness" is a sure indication of corrosion, which may extend under the solder, covering the copper and forming serious resistance against passage of the current. Indeed, it is presumable that the resistance of both light, power and signal circuits are often increased by such corrosion from the use of acid in soldering.

The staff of the Central Cable office are exceedingly proud of their new photograph. The reason for their pride lies in the discovery that among the thirty-three faces in the group, those of Smith, Brown, Jones and Robinson, representing the four most popular families of America, are particularly prominent.

The Atlantic Postal Telegraph and Cable Company was incorporated in New York, April 13. Its lines are to extend throughout the United States, the Dominion of Canada, and British Columbia.

W. D. Sargent, an old time telegrapher, now manager of the Bell Telephone Co., Brooklyn, N. Y., has sailed for Europe. He will represent the telephone interests at the Paris exposition.

John W. Penn, aged 17 years, son of Richard Penn, Western Union lineman, left his home in Chester, Penn., on the 3d inst., and has not since been heard of.

Moses Morris, a New York messenger boy, was pushed from a street car a few days ago and run over. If he recovers he will be crippled for life.

A telegram from the City of Mexico says that the municipal authorities propose to remove from its streets the telegraph, telephone and electric light poles.

ELECTRICAL INFORMATION.

From *Electro Mechanic*.

RESISTANCE IN LINES—Should be a little more than that of the battery and magnet, whether the work required is ringing bells or working sounder and relays.

TO AMALGAMATE ZINCS—This may be very well done by first immersing the zincs in dilute sulphuric acid and then in mercury. A brush or cloth should be used to rub them, so as to reach all points of the surface.

MAKING THE CONNECTIONS—In connecting a battery with an incandescent lamp or other apparatus, care should be taken to avoid loose or dirty contacts. Keep the terminals and the ends of the wires clean. See that the lamp is properly fixed in the holder and that the little hooks make a good contact with the eyes on the lamp.

ELECTRIC MOTORS—It is not profitable to run electric motors with a battery—not through any fault of the motor, but because the cost of obtaining current in this way is entirely too great. The laws of electrical science are so well understood by electricians at the present day that it is possible now to make as perfect a motor as can be made; it can be said truthfully that the electric motor has reached a state of perfection.

RE-CHARGING THE ACCUMULATORS—Most users of the "storage" batteries will find it best to have them recharged by the company or their agent.

For the information, however, of those who wish to recharge the batteries themselves, the following directions are given:

The accumulator may be charged from any convenient source of electricity, such as a primary battery or a dynamo machine.

The most convenient primary battery for charging is the double-fluid bichromate. A very compact and economical type has been specially designed.

TO CHARGE ACCUMULATORS—Connect the positive wire of the primary battery (the wire from the carbon plate) to the positive terminal of the accumulator, and complete the circuit by joining the negative terminal with the negative or zinc plate of the primary, and allow the current to flow for the required time.

A good guide in charging the accumulator is to note whether any gas is being evolved. This is easily detected by the fizzing sound which is made. If the cell is known to be discharged, and gas is evolved as soon as the charging battery is connected, it is a proof that the charging current is too great, and it must be reduced by inserting in the circuit some wire having an appreciable resistance. The fine wire used for tying up flowers answers this purpose very well.

Towards the end of the charge gas will begin to come off, but it is better to continue charging for some little time after this commences.

A little practice will enable a person to form a very accurate opinion as to the condition of the accumulator.

Charging can be done from a dynamo machine of any size provided the E. M. F. and current are properly regulated.

It should be noticed that the E. M. F. of the charging current must be somewhat higher (one or two volts) than that of the accumulator. Care must be taken not to reverse the accumulator—that is to say—that in charging the current must always enter the accumulator by the terminal.

The direction of a current is from positive to negative and therefore the positive wire from the charging battery or dynamo must always be the one connected with the terminal of the accumulator.

REMINGTON FEED GUIDES.—We are now prepared to furnish any one with Remington feed guides at \$2 each.

THE TRANS-PACIFIC ELECTRIC TELEGRAPH.

BY F. N. GISBORNE, C. E., in *Dominion Illustrated*.

At present there are three routes proposed for a trans-Pacific electric telegraph, the Northern, the Central or the United States route and the Southern, advocated by the Australian colonies and by Mr. Sanford Fleming, C. E.

The relative approximate distances from point to point are as follows:

	Nautical Miles.
Via the Northern route.	
Sook Bay, near Victoria, B. C., to Unimak, Aleutian Islands.....	1,500
Unimak, Aleutian Islands, to Attu Island.....	800
Attu Island to Japan.....	1,300
	3,600
Japan to Luzon Island, Manilla, (whence there is a direct cable to China,) 529 miles..	
Luzon Island to New Guinea.....	1,200
Luzon Island to New Guinea.....	1,140
New Guinea to Port Darwin, Australia.....	660
	3,000
Via the Central route.	
San Francisco to Oahoo, Sandwich Islands....	2,050
Oahoo to Johnston Island.....	720
Johnston to Wake Island.....	1,380
Wake to Marcus Island.....	780
Marcus Island to Japan.....	1,020
	5,950
Via the Southern route.	
Sook Bay, near Victoria, B. C., to Oahoo, Sand- wich Islands.....	2,400
Oahoo to Fanning Island.....	1,050
Fanning Island to one of the Fiji Islands.....	1,680
Fiji Islands to Brisbane, Australia.....	1,620
	6,750

Adding 12 per cent. slack for the cable as submerged, and estimating the cost at \$950 per nautical mile laid, the relative cost of the several routes for a *single* connecting line would be as follows:

Northern route via the Aleutian Islands to Japan.....	\$3,830,400
Central route via the Sandwich Islands to Japan.....	6,330,800
Northern route via Japan to Australia.....	7,022,400
Southern route via Sandwich Islands to Aus- tralia.....	7,182,000

Experience has proved, however, that a single series of cables would be totally inadequate to maintain uninterrupted communication through such vast distances, and for this reason alone double the above expenditure of capital must be anticipated.

The risk of damage from abrasion via the Southern and Central Pacific routes is exceptionally great, on account of the numerous coral reefs and coral-bound islands which rise precipitously from profound depths of ocean; whereas the Northern Pacific, so far as known, is entirely free from such dangers, both soundings and bottom being similar to those of Northern Atlantic submarine cable routes.

It is, of course, a simple question of sentiment as to the desirability of landing cables upon recent British possessions like Fanning and the Fiji Islands, for the purpose of securing immunity from foreign intervention; or upon independent territory like the Sandwich Islands, whose rulers can be held responsible for any wilful damage to national enterprises; for, given a swift cruiser, a length

or two of wire rope and a few cutting grapnels, any cable, no matter where located, or depth of ocean, can be rendered useless with far less danger than is incurred by blockade runners.

The prospective earnings of the several enterprises must be taken into consideration, for, upon the tariff rates must depend the question of successful competition; and in this connection it must be borne in mind that the speed of transmission, through a 3,000 mile cable, is limited to about seventeen words per minute; or, if in sufficiently perfect electrical condition for duplex working, twenty-five words per minute; whereas a cable half that length, say 1,500 miles (*vide* the Northern route), can be duplexed and worked as rapidly as skilful operators can manipulate the instruments.

In the regular course of business messages are necessarily crowded within three or four hours of each day, and the speed of transmission, to effect prompt delivery and reply, is unquestionably a very important element of success.

It being evident that the lowest tariff will prevail over the shortest distances to important business centres, established and prospective rates must also be considered. For instance:

	Per Word.
The existing price from Canada to Japan, via India and Singapore, is.....	\$2.21
As proposed by the subsidized Southern route, via the Sandwich Islands and Australia.....	2.25
And by the unsubsidized Northern route, via the Aleutian Islands.....	75

All routes allowing 25 cents per word for trans-Atlantic and trans-Continental lines. Again:

	Per Word.
The present rate from Canada, via Singapore to China, and also as proposed by the South- ern route, is.....	\$1.91
Whereas, via the Northern route, it would not ex- ceed.....	1.00

And, finally, the distances by both the Northern and Southern routes to Australia being very nearly equal, viz., 6,600 and 6,750 miles respectively, it is evident that the Northern, which will have already profited by the shortest and most direct connection with Japan and China, could afford lower rates to Australia than the Southern route, and (as suggested by Mr Gisborne) it would doubtless be advisable if Great Britain, her Colonies and the United States Governments would combine in the establishment of telegraphic connections from British Columbia and Washington Territory to Japan, China and Australia, via Alaska and the Aleutian Islands, and thus, by adopting the most feasible, least costly and *only remunerative* international route. prevent all rivalry and future competition.

A new invention to prevent collisions at sea, consisting of a small plate fixed at the side of the vessel, has been very successfully tried on the Thames. Electricity is the active agent. The approach of another vessel within two miles causes a bell to sound, and an indicating arrow shows the direction whence it comes.

The installation of the electric motor as a means for stationary power is becoming more noticeable each year, and estimates carefully made rate the number of those in use at the present time for driving machinery in the United States at between 6500 and 7000.

The ideal insulation for a marine cable is a layer of braided cotton next the wire, then the dielectric of white rubber containing no sulphur, protected by okonite, with a wrapping of tape to guard against abrasion, and, finally, lead tubing to resist chemical action.

Virginia City, Nev., has the biggest electric plant on earth. It has six 120-horse power generators, and runs a mine and mill.

WILLIAM B. WAYCOTT, MANAGER OF THE
CENTRAL CABLE OFFICE.

William B. Waycott was born in St. Andrews, New Brunswick, October 1st, 1856. He entered the telegraph service as messenger in his native town in February, 1870, became an operator in 1871, and was transferred in 1872 to St. John, the headquarters of the district; while there he became familiar with cable service, and in 1875 was sent to the cable station at North Sydney, in Cape Breton. But the centennial year brought him to the States and to the service of the Atlantic and Pacific Company in New York, from which, upon the consolidation a year later, he was transferred to the Cable Department of the Western Union Company, where he remained until the completion, in 1879, of the laying of the French Cable, when for the purpose of becoming a "continental" and also a "mirror" operator, he temporarily joined the staff of that Company at its North Eastham, Cape Cod Station. Returning to New York, on the opening in January, 1880, of the



WILLIAM B. WAYCOTT, MANAGER OF THE CENTRAL CABLE OFFICE.

American Union Company's lines; he was appointed chief operator of its cable circuits, and in the following June was sent to Chicago and Cincinnati in charge of a force of operators from New York, to assist in the handling of the business at the presidential conventions which nominated Generals Garfield and Hancock. In 1881, again by consolidation, we find him for a few months with the Western Union Company, which he left to become manager for the American Telegraph and Cable Company. This Company, in 1882, entered into a pooling agreement with the other Atlantic Cable Companies, its New York office was closed, and all cable wires were run into the "Direct" Company's office, of which Mr. James Brown was Manager. Mr. Waycott was appointed assistant manager, and thus getting back to the service of the Western Union Company, he has since remained in it. In 1884 the new Western Union building at 16 and 18 Broad Street, next

door to the Stock Exchange, having been completed, the Central Cable Office was established with Mr. Waycott as manager. He is also manager of the branches of the Central Cable Office, in the Stock, Produce, and Petroleum Exchanges, all of which have direct connection with cable stations. Mr. Waycott's duties, to which he gives the closest attention, are of a most exacting nature; his desk is in the centre of what may be called a web of wires, over which thousands of messages in every language are transmitted daily to and from all parts of the world. Constant necessary reference to dictionaries and Gazetteers, has made him and his staff of 50 operators and clerks more or less familiar with several languages, and with the geography and history of the principal cities and towns of all the nations of the earth. Mr. Waycott is a member of the Telegraphers Mutual Benefit Association, and Gold and Stock Life Insurance Association; also of the Magnetic Club; and is one of the Board of Management of the Serial Building and Loan Association, in which the telegraphers of New York and vicinity have invested over one hundred thousand dollars, and by means of which many of them already own their homes. He is also a member of an athletic and boat Club, and in all is an active and earnest worker, and is held in high esteem not only by his official superiors, but by all who know him.

THE WHEATSTONE SYSTEM.—The Wheatstone system includes a punching machine for producing the perforated strips of paper, a transmitting apparatus through which these strips are rapidly passed, and a receiving device which marks on another strip dots and dashes in ink. The punching machine will make the holes in three or even four strips at a time, and in the hands of an experienced operator will punch at the rate of forty words a minute. When the paper is prepared, it is run through the transmitter, which operates to establish a current whenever certain moving rods can pass through the holes and establish a contact, the currents being alternately positive and negative. If a succession of currents in reverse directions are caused to pass upon the line, the receiver at the opposite end will record a series of dots. To make a dash, one reversal of the current is missed; and, in brief, the function of the paper is to regulate the motion of the transmitter so as to produce reversal, or missing of reversal, of the current at the proper moments, and thus cause the current to form, in its movement, dots and dashes. The speed is determined by the rate at which the receiver can receive, because the apparatus contains a controlling electro-magnet, which takes time to be magnetized and demagnetized, and hence, if the current reverses too quickly, the marks will run together instead of being separate and distinct. The maximum useful speed is about 130 words a minute on a short line. One strip of punched ribbon will do for any number of circuits, so that from a central station a single strip disseminates news to many places.

The financial affairs of the Callender Insulating and Waterproofing Co., of New York, are in quite an embarrassing condition and from the present outlook they are beyond speedy adjustment. The public prints are having considerable to say concerning the extravagant expenditure of hundreds of thousands of dollars by the company.

New York is catching on to our metropolitan customs by degrees. She is just now engaged in clearing a portion of one or two streets of telegraph poles. Her people get these tips by visiting Chicago occasionally.—*Chicago Mail.*

The National Telegraphic Press Association, Chicago, capital \$10,000, to furnish daily telegraphic reports and general correspondence, has been incorporated by Anthony P. Morris, Chester H. N. Brisco and John Moffitt.

The National Electric Light Association have fixed August 6, 7, and 8 for the date of the convention at Niagara Falls.

THEN AND NOW.

By R. C. EDWARDS.

In the early history of the telegraph, operators were looked upon as persons of extraordinary intelligence. They circulated in the best circles, and their society was courted. I have seen them pointed out on the street, and people would turn around and stare at them, as if they expected to see something beyond all human comprehension. I remember once overhearing a countryman on the streets of Macon, Georgia, say (upon an operator being pointed out to him): "Phsaw! I don't see anything smart looking in that chap."

Was the seed sown, in those days, that now should be bringing forth much fruit? I leave the reader to answer.

The word "telegraph" was one of much significance. It bore with it a talisman; it was an "open sesame" to all places of amusement, a pass on all railroads in the South, with but one exception, and that between Richmond and Petersburg, Va., a distance of 22 miles. I never knew an operator to get over that road free, unless he had a regularly issued pass, and countersigned by some official of that road. The words "telegraph operator" whispered in the ears of doorkeeper or conductor, were sufficient to give you one of the best seats, or pass you over the railroads.

At all dining rooms on the lines of railroad, you would be heartily welcomed by mine host, be the first waited on, and receive the best of attention. Why? Operators used to keep these dining room men posted on the number of through passengers on each train both ways. They could then form some idea of how many would likely want dinner, and prepare for so many accordingly; this would be a great saving to them, and they could well afford to supply the hungry, travelling telegrapher.

After operators had become proficient in reading by sound and demonstrated their ability to do so much better work, the Hon. Amos Kendall, then president of the Washington and New Orleans Telegraph Company said: "six hours of continuous labor was as much as the brain should be taxed," and he caused a series of reliefs to be instituted, of a duration of six hours each. If in those days six hours was considered as much as the brain could stand, what must it be to-day, when the telegraph business of the country has attained such vast increase in volume. Now nine hours, and even more, of continuous labor is considered none too much.

Before the advent of submarine telegraphy, and the laying of the Atlantic Cables, there was great rivalry among the different press associations, foremost of which were the Associated Press, managed by D. H. Craig, and the Independent Association, managed by John Wills, at Baltimore. Foreign news was much sought after, especially throughout the cotton section of the South. The *Charleston Courier* and *New Orleans Picayune* had their special correspondents stationed at New York, to forward them specials on the arrival of every steamer. The extra service thrown into the hands of operators then was a great boon to them. The through lines closed at night, when clear of business, generally by 11 o'clock. If a steamer was expected during the night, the agents of the Press Association would order the line open; this meant the retaining of two operators at all repeating stations, in case it was necessary to relay. The operators would receive 50 cents per hour from each Press Association or newspaper ordering the lines left open. The company allowed supper served in the office at the company's expense, from some first-class restaurant. Of course, operators were in no way chary in ordering, and enough would be ordered so they could invite a friend in, to partake of the delicacies of the season. The company soon found it was rather expensive to furnish suppers at an average cost of five to six dollars, when it would often occur that the line would be ordered closed after

waiting only an hour or two for the expected steamer. But the suppers would be there all the same. They then decided to discontinue the suppers and allow the operators 50 cents per hour for extra service. They would then receive 50 cents per hour from the company, as well as 50 cents per hour from each one ordering the line kept open.

Just think of it, ye waiting list men and extra sharks, \$2.50 an hour for extra work. For it often occurred that the line would be ordered open by the Associated Press, the Independent Association, the *Charleston Courier* and the *New Orleans Picayune*, all on the same night, and the line would be kept open until orders were received from all to close. The extra would commence from the time the line was clear of business, and good-night given from Washington. Often the expected steamer would not arrive that night, or next day, and the extra would be repeated the next night, and often for several nights in succession. What a chance this would have been for the "scoopers" of to-day. Methinks I hear your reader say: "Can these things be true, or is he giving us some fairy tale?" No, reader; this is no fairy tale. All that I have written are facts that have actually occurred in my experience, as an old timer, showing the great changes from then to now.

Operators in those days were scarce, and the supply did not equal the demand, and it was no unusual thing, after an absence of a week or ten days, without leave, to be taken by the hand and heartily welcomed back, with salary allowed. How is that "split trick" men?

The companies showed a liberal spirit towards their employes and many are the instances of generosity displayed, one, in which I myself was directly concerned, I will mention. While at Charleston my father died and I returned home, not expecting to return to Charleston again. I was in hopes of an addition to the force of the home office being made, or a vacancy near by. After waiting two months I wired the Hon. Amos Kendall, then president, asking what disposition he could make of me, when I received the following message: "Return immediately to Charleston, and draw your pay for time absent." This was a great surprise to me, as it was more than I had any reason to expect. Although I have painted this glowing picture of the early days of telegraphy as a contrast to the situation at the present time, we now look around and see the vast army of operators that has sprung up, and still being rapidly added to, we must certainly be brought to the conviction that this army cannot be controlled without strict discipline, and when impartially administered, we should not look upon any of the measures adopted as any too harsh.

SAVANNAH, GA., NOTES.—Among the latest arrivals are J. M. Griener and M. S. Harris from Atlanta. Departures, A. C. Kuttner and J. S. Bland. Mr. Harris was manager of the Southern at Charleston until the consolidation. He is well known throughout the South, and is an agreeable and valuable acquisition. Mr. Ned Ryan of Charleston paid us a flying visit last Sunday. An office has been opened in the Cotton Exchange here, with Mr. J. S. Seabrook as manager. Mr. Brown, of Augusta, gave the office a thorough overhauling a few weeks ago; putting in a new switch and making several other much needed improvements. Clerical force: H. A. Read, bookkeeper; T. C. Turnipseed, J. M. O'Neill, F. J. Fitzpatrick, John Masters, J. C. Courtenay and Miss Mamie Holleran, clerks.

Mr. W. W. Fuller, manager of the W. U., Columbus, Ind., has returned from an extended trip in the South, much improved in health.

France and China have agreed to connect the China and Tonquin telegraph lines, and thus establish communication between Saigon and Peking.

WESTERN UNION N. Y. NOTES.—If those who are fond of assailing the Western Union Telegraph Company for failure to deliver messages, would read the article written by Manager W. J. Dealy, which appeared in the Christmas number of this paper, their opinion would surely undergo a decided change, and instead of accusing or, rather, intimating a desire on the part of the company to delay business, they could the better appreciate the strenuous efforts on the part of the employees, to see that it was hurried forward to its destination. The careless manner adopted by too many customers in addressing messages, is responsible for a large amount of telegraphing, the performance of which comes out of the company's pocket. John Smith sends a message to Jim Jones, at 1096 Broad Street, Newark, N. Y. The majority of those through whose hands this message passes know full well that instead of New York it should go to New Jersey, and to that State it is sent. Zachariah Wintermute wires Josh Poppenhausen, at Fifth Avenue, to meet him at the Grand Central. Now, Zack's name not appearing in the directory is no reason why the sending office should be notified to "give a better address;" nor is it. An attempt is first made to find the addressee at the Fifth Avenue Hotel. Failing in this, the Fifth Avenue Theatre is tried. Should he be unknown at that place, and none other suggesting itself to the chief of the division, the clerical department is immediately notified and steps at once taken by communicating with the sending office, to ascertain where the message properly belongs. Aside from the necessary amount of telegraphing, the time consumed is considerable. When as is often the case a message bearing the simple address, "James Smith, New York," is received, clerks look carefully through the day's business to see whether it is not an answer to one previously sent from here. This research occupies some time, but, as a matter of fact, much less than would be consumed in the attempt to "try" every James Smith, whose name appears in the directory. But for the excellent judgment used by employes, complaints would be more numerous. A night or two ago, a large business house wired a firm in the South a message of the utmost importance, as was plainly evident from the context. In his haste the writer thereof neglected to give the destination. With nothing but the state Louisiana to go by, a chief tried all offices known to relay business for points in that State, and at last found one who being familiar with the name of the party to whom it was addressed, forwarded it to its destination. As a matter of fact, the answer was received an hour before the message could have been corrected, had it been held for the arrival at the firm's office of the writer of the dispatch. The sympathy of the craft is extended to Mr. Titus Brooks, the well known and affable time-keeper, whose mother, after a protracted and most painful illness, died at Central Valley, N. Y., a few days ago. Mills Sink has lost by death the little boy whose birth was announced last issue. Miss Seaver, one of the best known lady operators here, while on her way to work, a few days ago, was seized with a fainting spell in front of the office and fell unconscious to the sidewalk. Willing hands quickly came to her aid and she was carried to the vestibule, in the counting room, from which she was later on conveyed in an ambulance to the hospital. Her condition, we are pleased to know, is improving rapidly. Your correspondent takes pleasure in announcing to the readers of the AGE that, after considerable strategy, he has at last succeeded in getting a most excellent photograph of his friend, "The Brevity Man," for the issue of May 15th, or, at the latest, June 1st. Miss Roberson, while out riding a few days ago, was thrown from the carriage and sustained painful, though fortunately not serious injuries. Miss Winnie Bulger, a bright, vivacious young lady, is the wit of the City Line. Miss Lillie Ford has accepted a broker position. Mr. C. W. Hanson was recently called upon to mourn the loss of his wife and little child. He has much sympathy. Miss Sadie Fullgraff, who has been seriously ill with diphtheric sore throat, is again at her desk, much to the relief of her many friends. Harry Heritage and wife have gone to Chicago. From there by easy stages they go to California, where it is most earnestly hoped he may regain

his health. The best wishes of a host of friends follow the happy couple. Mr. Yackley's absence is explained by the announcement of the arrival, at his home, of a little boy, on the 9th of April. E. F. Stevens has changed to the 6 to 3 trick. Miss Hattie Ford has gone to Long Branch for her health, and will, as soon as the season opens, assume charge of the office at the United States Hotel. While the Brooklyn Signal Corps, 2d Brigade, have two day men on their roll, the New York Signal Corps, 1st Brigade, is fortunate enough to have Charles F. Kirschbaum, a popular member of the night force. Charley, without doubt, will represent the night force in a creditable manner. The New Yorkers are to be congratulated in having with them so gentlemanly and competent a telegrapher. Miss Carroll, of Naugatuck, Conn., was a most agreeable visitor here a few days since. Assistant Manager Brennan made a hurried trip to Philadelphia one day a couple of weeks ago to serve as a witness in an important suit against the company. Miss Florence Preterre has left to accept a position at Asheville, N. C. Whether or not the sender of the following was astride the time ball on top of the building, is not stated; that he sent the despatch is beyond question: "Viewing things from my dizzy height, I am unable to report. Pardon my absence." And Mr. Brennan did. Mr. Porter, after an absence of several months, is again on the night force.

C. P. R. WESTERN DIVISION NOTES.—P. H. Bogue, agent at Port Arthur for past six years, has been transferred to Brandon, Manitoba. Before his departure, a large number of friends assembled at the Northern Hotel and tendered him an address accompanied by a handsome purse of gold. Mr. F. W. Peters, from Brandon, takes the agency at Port Arthur. Mrs. Allan, manager, town office, Port Arthur, has just returned from a two weeks' visit to Winnipeg, Miss Seed, from Brandon, ably performing her duties while absent. A. More, train despatcher, Port Arthur, has resigned and entered into partnership with a leading dry goods establishment at that place. Transfers: A. A. Burk, Finmark to Carlstadt; A. J. Purchase, Carlstadt to Tache; H. E. Leslie, Tache to West Fort; A. A. Marlatt, West Fort, promoted to Port Arthur repeating office. W. Crawford, Murillo to Kaministiquia; F. J. Shehan, Buda to Savanne; W. W. Maguire, Savanne to Ignace; J. M. Culleton, Carlstadt to Fort William; F. H. Sproule, Fort William to Whitemouth Agency; A. Dowker, West Fort to Rat Portage, nights; Geo. Nash, Selkirk to Raleigh; A. Houston, Whitemouth to Telford; H. Rombough is on leave of absence, and has gone East for his health. Mr. Saunders, from Ignace, is visiting Port Arthur. Arrivals, Geo. W. Hyde, Clinton, Ont., to Whitemouth; F. D. Shehan, Utica, N. Y., to Buda; T. Urquhart, Winnipeg, to English River.

BOSTON NOTES.—Arrivals, Messrs. F. C. Crosskill, J. G. Lester and A. G. Blair. Departures, Messrs. F. R. Cobb, E. C. Burke and E. J. Thompson. Business has shown no increase since our last, and all those applying for positions on the extra list are being refused, and will doubtless continue to be for some time to come. Mrs. O. E. Staples, manager of Belfast, Maine, office and Mr. G. W. Millmore, manager of Dover, N. H., office visited the W. U. office last week. Mr. C. W. Rice, of 109, and Miss Cora Warren, of the W. U., Lowell, Mass., were married at Newton, Mass., recently. We extend our hearty congratulations. Mr. J. N. Taylor, sporting editor of the Boston *Globe*, paid us a visit last week; Mr. Taylor was formerly a well known operator at 109. Mr. Eugene J. O'Connor has been transferred from the night to the day editorial staff of the Boston *Globe*. Miss Carrie Cobb, of the Highlands office, has been appointed manager of the new Boylston Street office. Miss Grace Collier has been assigned to the Highlands office. The Western Union Ball team has begun its practice for the season, and Mr. S. F. Shirley and Mr. Joseph Walsh have been sufferers from "Charley Horse," to a very painful extent. Mr. Tom Devine, who captains the team,

has gone on the night force, and will devote his afternoons to practice. An occasional item regarding this team may not be out of place, and the readers of the AGE will no doubt be pleased to know the names of the players, positions, &c., which we will endeavor to ascertain for the next issue. Will the New York Club dare to cross bats with us?

CLEVELAND NOTES.—Mr. Shum is off on leave of absence and is with the Standard Oil Co., at Lima, at present. Check clerk Griswold, transferred to Globe Iron Co.'s ship yard office, handles the business in fine style. Mr. Hunter is happy over the arrival, at his house, of an eight pound girl. "Johnstein" for "John Stein," and "Hacket here" for "Hack there" are among the latest. J. T. Crabbs for J. C. Trask isn't bad for a telephone copy. "Send car sand to Armstrong & Daily," was made to read: "Send car sand to Armstrong daily," consequently, they received a car of sand each day until the fourth, when there was an investigation. Base ball is so fascinating that some of the operators often pay a dollar an hour to get off. Miss Myrtie West has been quite sick, but is improving now, and Miss Florence Gaffey is confined to the house with a severe cold.

NEW YORK TELEGRAPH CLUB NOTES.—John W. Roloson, night manager of the Postal Telegraph Co., has been appointed a member of the governing committee, *vice* Harry I. Jolley, resigned. Prominent among those elected to membership in the club, at the April 17th meeting, of the governing committee were Messrs. John H. Dwight, William H. Ives, of 195; John Neilon, with Henry Clews & Co.; and Geo. H. Dickinson, of the New York World. E. F. Stevens has been appointed chairman of the committee on athletics. Thirty-five candidates were elected members at the meeting of the governing committee, held April 17th, and six at the meeting on the twenty-fourth of the same month.

FAST WORK BY AN ASSOCIATED PRESS OPERATOR—A correspondent notes an item in the ELECTRIC AGE, referring to the feat performed by Mr. James D. Thurston, of Washington, on the night of March 20. It is there stated that Mr. Thurston sent, on the southern circuit, in forty-five minutes, 2,019 words. The correspondent concedes this to be *good time*; but to the latter part of the item, in which Mr. Thurston queries whether the "A. P. or any other P. can beat this," the correspondent replies as follows:

"I fail to see why it is a remarkably fast piece of work, even though performed by a 'veteran,' and as for placing it as a guide mark for the 'A. P.' etc., it is simply absurd. On the southern circuit of the Western press, every night, in ordinarily decent weather, the average for the first two hours is 3,000 words per hour. It is a *very* common thing to average 2,500 on that circuit, and the transmitting operator with his thirty years of service, has probably as much license as a 'veteran' as our Washington friend. One instance, which occurs to the writer, and of which there are probably many more remarkable, fully answers Mr. Thurston's question.

About the middle of February there were received from New York, at the Minneapolis end of the West Press Circuit, between 12:30 and 1:24 P. M., ten full sheets of type-written copy, which by *actual count* made 2,700 words, thus showing an average of 50 words per minute for fifty-four minutes, and over a circuit of more than 1,700 miles of wire. The standard sought to be established of 44 words in forty-five minutes is, therefore, not so remarkable after all. I would say further that I am simply answering Mr. Thurston, and not for a moment do I wish to be understood as casting the slightest reflection upon the United Press operators. They comprise some of the brightest lights and most estimable gentlemen in the profession, and I am only sorry to see them place so low a standard upon the rapidity of their work."

LINEMAN KILLED.—Michael Early, a lineman engaged in removing wires from the poles on Sixth Avenue, which are being cut down by the city, was killed April 18th, and Hugh Reilly, another lineman, was severely injured. Two men began to chop the pole, while others guided it away from the windows of the stores. On account of the elevated railroad it was necessary to support the poles with guy ropes in order to allow them to fall sideways into the street. Early and Reilly had been detailed to fasten guy ropes to the upper part of the building opposite the pole. They managed to lower the ropes from the third story. These were attached to the top of the pole and drawn taut by the two men. Early was astride the rope and Reilly was standing outside the window holding the rope. At 9.20 o'clock the ax men had finished and the order was given to lower the pole. It fell with a crash toward Twenty-third Street. As it fell loud cries of horror broke from the crowd. The two men had fallen to the ground, Early lying flat on his face and Reilly on top of him. Reilly was picked up partly conscious and may probably recover.

THE MAGNETIC CLUB.—The spring meeting of the Magnetic Club was held at Martinelli's, Fifth avenue, April 24, when an interesting programme was rendered and a collation served. The feature of the entertainment was the Edison phonograph, which President Bruch had secured for the occasion. The instrument related some very funny stories and gave correct imitations of brass bands and various musical instruments. Mr. D. W. McAneeny, for the first time in his life, was permitted, through the phonograph, to hear his own voice in song. Many of the members of the Club and visitors contributed to the entertainment by song, recitation and funny stories. All seemed to enjoy themselves, and it was with much regret, at midnight, the party dispersed.

We are indebted to the *Dominion Illustrated*, of Montreal, the leading illustrated paper of Canada, for the excellent engraving of Mr. F. N. Gisborne, which we produce in this issue. The *Dominion Illustrated* has published several engravings of the prominent railroad and telegraph officials of Canada. In the issue of that paper of February 3, there is a full page engraving of W. C. Van Horne, president and general manager of the Canadian Pacific Railroad. The work is the finest that has ever come under our observation. The artists of Montreal have certainly got the fine points of this intricate business down to perfection.

TRANSFERS—T. J. Bates, Huntington, to Portland, Oregon; E. H. Gaston, Watsonstown to Shamokin, Pa., for the Adams Express Company; F. M. Beall, Helena, Mont., to Walton, Ind.; T. F. Conroy, Palmer to Worcester, Mass.; J. M. O'Connor, Hartford, Conn., to Worcester, Mass., for a broker; Guss A. Marlatt, Rat Portage to Port Arthur, Ont.; Frank B. Hoag, Ludlow, Pa., to Alleghany Station, Va.; J. G. Minniece, Meridian, Miss., to Mobile, Ala.; J. C. Lynch, Nashville, Tenn., to Louisville, Ky.; J. N. Johnson, Augusta, Ga., to Ninety-Six, S. C., to recuperate during the summer; W. P. Potter, Long Island City, N. Y., to Washington, D. C.

L. H. Rogers, the well known manifold paper and stylus manufacturer, of 75 Maiden lane, New York, reports an increasing business. He has now in stock twenty-five different varieties. A price list of the same will be sent to any address upon application. Our readers who contemplate buying any of these goods, will find it to their advantage to deal with Mr. Rogers.

Mr. S. B. Lambdin, of 195, has moved into a larger room at his residence, the Lafayette Hotel, which he has so richly ornamented with large frame pictures and other beautiful decorations, that it is a dream of loveliness realized. He invites his friends to call.

W. A. Lamb, well known operator, formerly of St. Stephen, N. B., late of Topeka, Kan., has been appointed General Manager Grand Southern Railway, with headquarters at St. Stephen, N. B.

COVET NOT.

BY J. C. WATTS.

It is easier to speak than to act; but still it should not be so, especially when we by outward signs and speech proclaim to our associates that we are of the righteous. When a chance remark or word, not intended for our ears, brings a blush to our cheek or sends a cold chill through our frame, we pause and to ourselves we involuntarily utter a prayer that the speaker may, like us, quit the path of sin and sin no more.

Of such we are led to believe, that those whom we see ever ready to speak of "He who died to save us," must be; but are they? alas, no; and the little story I tell will show that there are some who greatly resemble the Pharisee who cried out "I thank thee, oh Lord, I am not as other men."

In the main telegraph office working on the night force were two men, and strangely enough they were what could be called "opposites," opposite in the room, opposite in manners, professionally and religiously—mark the religious—one blunt of speech, popular, jovial and congenial; the other reticent, with an air of religious impudence, ever ready to thrust his ideas and religious views upon you; in his hand a tract and lunch, and in word and action he would imply "am I not godly?"

As time moved on nothing transpired to mar the apparently friendly feeling existing between Jim and the divinity student. Soon Jim secured employment, during his leisure hours, on a prominent republican evening paper, whereby his genial good nature and fine service won the esteem and good will of all from the managing editor down to the "devil," and everything promised for a good, profitable summer's work. But by chance Divinity heard of the place; he neither waited for "mail or express," but hied away for a recommendation, and, happy thought, the editor is a "brother," and it must be endorsed by godly people. It was done, and armed with the missive his heart filled with "covetousness for his neighbor's goods." He seeketh the good, pious editor and secures the place.

Jim leaves the building and down in his heart he softly repeateth: "Whatsoever ye would that man should do unto you do ye even so to them."

PRIMITIVE TELEGRAPHS—As is well known, the Indians of our continent use rising smoke to give signals to distant friends. A small fire is started, and as soon as it burns fairly well, grass and leaves are heaped on top of it. Thus a large column of steam and smoke rises. By covering the fire with a blanket the rising of the smoke is interrupted at regular intervals, and the successive clouds are used for conveying messages. Explorations in the Congo Basin have shown that the system of drum signals prevails throughout Central Africa. The Bakuba use large wooden drums, on which different tones are produced by two drumsticks. Sometimes the natives "converse" in this way for hours, and from the energy displayed by the drummers, and the rapidity of the successive blows, it seemed that the conversation was animated. The same use of drums is found in New Guinea. From the rhythm and rapidity of the blows the natives know at once whether an attack, a death, or a festival is announced. The same tribe use columns of smoke or (at night) fires to convey messages to distant friends. The latter are also used in Australia. Columns of smoke of different forms are used for signals by the inhabitants of Cape York and the neighboring islands. In Victoria hollow trees are filled with fresh leaves, which are lighted. The signals thus made are understood by their friends. In East Australia the movements of a traveler were made known by columns of smoke, and so was the discovery of a whale in Portland Bay.—*Science*.

THE TELEGRAPHER IN THE NEWSPAPER OFFICE.—The volume of telegraphic news collected and distributed to the great journals has increased enormously in the past few years, and in the offices of newspapers of importance the telegraph operator has taken his place beside the news editor as a permanent fixture. In the editorial sanctums of the greatest papers several wires are manned. The receiving and sending of news matter, as prepared by competent reporters and correspondents, is excellent training for editorial work. The "nose for news," as well as style, expression, vocabulary, and a knowledge of newspaper methods, are acquired in this way, and graduations from the telegraph table to the editorial desk are common occurrences. During the past few years I have known a number of telegraph operators who have advanced from the key to positions of prominence in journalism, and their success in newspaper work is to a considerable extent due to experience gained as telegraphers. One of these is now the secretary and general manager of one of the largest press associations, which transacts a business aggregating nearly half a million a year. Another is a widely-known and highly-valued Washington correspondent; a third is the New York news agent of a large Boston daily; still another is the sporting editor of the same paper, while a fifth is on the staff of reporters of a New York journal. The list might be extended at will. Not one of those mentioned above possessed the advantage of college training. The man who can take an important address in shorthand from the lips of a speaker, and then sit down at a telegraph key and transmit his report to his paper from his note-book, is far more valuable to that paper than would be a walking encyclopædia without that special ability. During the March blizzard in 1888, the *Boston Globe* secured the first news about the situation in New York, beating all its contemporaries by half a day, because its New York correspondent was a practical telegrapher, and knew how to tap a wire and transmit news, as well as how to write.—H. H. FLETCHER, in *The Writer*.

QUITE A POST-OFFICE.—The local post-office of the main office of the Western Union Telegraph Co., 195 Broadway, New York, is no small affair, when the business transacted is compared with that of a town of 20,000 inhabitants. The Western Union pays the postmaster. Postmaster-General Wanamaker will not be called upon to make a "shift" for partisan or any other reasons. When we say that the business of the local office equals that of a city of 20,000 people, it can be readily realized the extent of the enormous correspondence the executives of the company are compelled to handle daily.

A SAD DISCOVERY.—John Welton, of New Brunswick, N. J., telegraph operator at the Hillsborough Station of the Lehigh Valley Railroad, yesterday sent this dispatch to Perth Amboy: "An accident has just occurred. Will send particulars when learned." A few moments later the operator discovered that it was his own son, a lad 13 years of age, who was killed. The boy was walking on the track toward the operator's office when a locomotive struck him, killing him instantly.

A piano played by electricity was exhibited by the Æolian Organ and Music Company of 831 Broadway a few days since. The notes were struck through the agency of patent perforated sheets, the holes in the paper representing the notes. Anybody who likes the music of the piano and don't know how to play, can be furnished with any air if he buys one of these instruments, which truly reduces music to mechanism.

Mr. Jerry C. Foley, a well known telegrapher of Indianapolis, Ind., is running for City Clerk in that city. The fact that he is a telegrapher should secure his election, regardless of partisan views. Telegraphers are naturally fitted by their calling to occupy with credit any position within the gift of the people.

ELECTRICAL PATENTS GRANTED APRIL 11.

- 400,463. Lightning Arrester: Myron D. Law, Philadelphia, Pa.
- 400,523. Harmonic Telegraphy: Francois Van Rysselberghe, Brussels, Belgium, assignor, by direct and mesne assignments to himself and the Phono-Multiplex Telegraph Company, Baltimore County, Md.
- 400,525. Electrical Railway Signaling: William H. Waddell, Lexington, Va.
- 400,591. Telephone Transmitter: William J. Morton, New York, N. Y.
- 400,629. Phonograph: Charles Batchelor, New York, N. Y.
- 400,680. Prevention of Sparking in Electric Motors and Generators: Daniel Higham, Philadelphia, Pa., assignor to the Higham Electric Motor Company, same place.
- 401,296. Electrical Call Bell: Joseph G. Noyes, New York, N. Y., assignor to the New Haven Clock Company, same place.
- 401,227. Mechanical Telephone: George Thomas, New York, N. Y., assignor of one-third to Joseph H. Simpson, same place.
- 400,978. Electric Heating Apparatus: Henry F. Watts, Sandusky, Ohio.
- 400,980. Standard Tangent Galvanometer: Edward Weston, Newark, N. J.
- 400,985. Telegraph Apparatus for Ships: James B. Willis, Portsmouth, County of Hants, England.
- 400,732. Electric Switch: Sigmund Bergmann, New York, N. Y., assignor to Bergmann & Co., of New York.
- 400,866. Electric Condenser: William Marshall, New York, N. Y.
- 400,795. Spark Coil: Francis H. Root, Chicago, Ill., assignor to the Root Electric Gas Lighting Company of Illinois.
- 400,971. Alternating Current Electric Motor: Elihu Thomson, Lynn, Mass.

GRANTED APRIL 16.

- 401,334. Telegraphy: Patrick B. Delaney, New York, N. Y.
- 401,466. Secondary Battery: John S. Sellon, Hatton Gardens, County of Middlesex, England, assignor to the Electrical Accumulator Company of New York.
- 401,520. Method of Operating Electro-Magnetic Motors: Nikola Tesla, New York, N. Y.
- 401,606. Manufacture of Carbon Filaments: Edward P. Thompson, Elizabeth, N. J.
- 401,617. Electrical Measurement Apparatus: Anthony C. White, Boston, Mass.

A telegram destined for Australia goes from New York to London, then via the Great Northern Telegraph line to Denmark, from there to Russia, across Siberia to China and Japan. This is the all land route. Another route is from New York to London. From there it goes via the Eastern Telegraph Co. to France; thence by cable through the Mediterranean and Red Seas to Aden, from Aden to Bombay, from there to Penang, Singapore and Batavia. It enters Australia at Port Darwin, thence overland to the principal cities of Sydney, Melbourne, etc. A cable connects New Zealand with Sidney. Also Tasmania with Melbourne.

Chief Walker, of the Electrical Bureau, has prepared a statement showing that there are 5,397 miles of overhead wires in Philadelphia, of which the Bell Telephone Company has 1,850 miles, and the city itself 795 miles. The Western Union and its leased lines make up nearly all the remainder. There are 825 miles of underground wires.

An electric fire engine is a new invention. It can be started at full speed, is much lighter than the steam fire engine and possesses various other advantages.

THE EFFECTS OF DISCIPLINE.—It frequently happens when sending messages to suburban telegraph offices from the main office that the operator at the suburban end cannot be raised. In such a case the operator inscribes on the back of his message: "Called; can't raise."

In many cases the "call" may be sent a dozen times, and each effort is religiously inscribed on the back of the message in order to exonerate the operator should any complications arise from delay.

Recently there entered the employ of the Western Union Company a typical New York boy, bright almost to "freshness" and quick in observation.

Owing to a press of business the boy was detained at the office the other evening, and when he was finally permitted to go home it was close to 11 o'clock.

When he reached his house, uptown, he found the door locked, and, giving a vigorous tug at the bell, he awaited developments.

No answer being received, he drew a piece of chalk from his pocket and inscribed on the door:

11:10, CALLED, CAN'T RAISE.

Every five minutes he renewed his ring and as faithfully inscribed the time on the door.

At 11:30 o'clock, being discouraged from further efforts, he chalked down the hour and underneath it wrote:

"GUESS THEY'VE CUT OFF THE BATTERY. AM GOING TO SLEEP."

He forthwith laid himself down on the doorstep, and buttoning his overcoat fell into a cool but peaceful slumber, to be awakened soon after daylight by one of the family.

The chalk marks were accepted as evidence that he had not been out all night.

MEXICAN TELEPHONE.—At the meeting of the directors of the Mexican Telephone Company last week, the following officers were elected: Robert Colgate, New York, president; Harmon Hall, vice-president; W. F. Smith, Boston, treasurer; W. H. Harrington, Boston, secretary. Transfer books were closed until and including April 23.

Mr. J. W. Watkins, formerly manager of the Western Union, Petersburg, Va., is superintending the construction of the Postal Telegraph Company's line between Raleigh, N. C., and Petersburg, Va. He has a large force at work and expects to have the two lines completed early in June. The line south of Washington to New Orleans will probably be completed by October.

The Scranton telegraph operators have passed resolutions of condolence in the death of J. H. O'Brien of that city. They are signed by Geo. R. Rigdon of the Postal, W. H. Collins of the Western Union, R. E. White of the railroad, and H. L. Knapp of the broker offices.

At a meeting of the newly-elected trustees of the Ball Electric Light Company of this city, the following parties were chosen for officers: Col. William L. Brown, president; Sherman H. Kneval, vice-president; Charles E. Ball, secretary; James H. Breslin, treasurer.

The Signal Service telegraph cable, crossing Bregon Inlet, N. C., was swept away during the recent storm. Telegraphic communication with Cape Hatteras is thus cut off until a new cable is laid.

Mr. John McAlister, formerly chief operator of the United Lines office, now with a broker, has the sympathy of his numerous friends in the loss of his child.

In Missouri telephones cost \$4 per month in towns of less than 5000 population, and \$3 in towns having 5000 people.

The wife of Mr. M. C. Sink, of the 195 Broadway force, died on April 25.

Mr. E. Curlette, late of the C. P. R., Ottawa, is with the Postal.

EDWARD CURRY.

Edward Curry, the eldest of a family of telegraphers, was born near Peterboro, Ontario, in 1843, moved when quite young to Cobourg, the seat of Victoria College, a town named in honor of the Queen's future husband. Here, when a mere lad, he was employed temporarily in the telegraph office, but, liking the business, became a fixture, and in a few months took charge of the Peterboro office as operator and manager. This was in 1856, and the small boy upon taking charge discarded the paper tape, turned his Morse Register into a sounder and became one of the few early sound operators in the province.

The International Company, for whom he worked, after a fitful existence, failed and passed into the hands of the Montreal Company about 1858, throwing him out of a position. After subbing along the Grand Trunk Railway at various points and finding the work very light and monotonous, he forsook railroading and entered the service of the Montreal Company at Cobourg in 1860 as assistant operator and was soon appointed manager. He pursued



EDWARD CURRY.

his interrupted studies in languages, mathematics and bookkeeping after office hours, when easy-going Canucks were supposed to be in the arms of Morpheus, excelling especially in feats of penmanship. While here in 1865, his former superintendent, O. S. Wood, who had made large investments in Western telegraphic property, selected him as a man upon whom the wiles of wild frontier life would have little effect, and persuaded him to accept charge of St. Paul, Minn., office, a prominent construction centre where much responsibility was thrown, financially and otherwise.

Leaving his home office in charge of a younger brother, whom he had trained, Mr. Curry resigned from the rifle company, of which he was a member, (for these were the days of Fenian scares over the border) and cut loose from home associations, packed his gripsack and sped westward to his new home. He found matters there rather demoralized, but brought order out of the chaos left by his

rather fast predecessors who had tried to combine business with pleasure, and his employers soon found their interests vigilantly guarded at that point, and being far removed from the head office he was given large discretionary powers. Here frequent interruptions to the highway wires caused every moment to be utilized, and at times great speed was necessary to clear up business and supply the press news. On one memorable occasion he copied 2,631 words of press report sent by E. M. Shape, of Milwaukee, to the St. Paul papers in an hour, breaking the telegraphic record and eliciting a highly complimentary letter from Professor Morse. He has given us an amusing account of his early Western experiences in an article recently in the *ELECTRIC AGE*, entitled "Early Telegraphic Days in the Northwest."

About 1871 Mr. Curry was called to Kenosha, Wis., to assist the aged secretary of the company. Here his rapidity and head for figures led to his appointment as assistant secretary and accountant, which he held until 1881 or 1882, when the Northwestern company having grown dangerously strong was bought by the Western Union, when he performed the melancholy duty of closing up accounts and turning over his company's property to its successor and bowing himself out of office. With a small but vigorous family to provide for, he moved back to St. Paul, became again a knight of the key, and while looking over the ground for a change or improvement in business, his former business associates who had joined Mr. Wiman in the control of the Staten Island Ferries and Railway, brought him to New York and elected him treasurer of their new Staten Island Rapid Transit Railroad Company, an office he still holds. In 1885 he was also elected secretary and treasurer of the leased Staten Island Railway, succeeding the late Mr. Stevens, a protege of Commodore Vanderbilt, and whose sudden death severed the last link connecting the Vanderbilt with the Wiman control of an enterprise that bids fair to make Staten Island one of the most accessible, as well as it is one of the pleasantest suburbs of New York city.

Mr. Curry is a member of the Society of Railway Accountants, one of the managers of the Staten Island Singing Society and an amateur artist of some skill, as the sketches upon the walls of his hospitable home, near St. George, S. I., overlooking New York bay and city could testify. He was formerly an occasional contributor to the *New York Telegrapher* in its best days, and still keeps his hand in when anything of interest strikes his fancy in the line of his former profession.

An English electrician, Mr. Langdon-Davies, has made and perfected an invention which promises to be of great advantage in the service of transmission by electricity. At the present time the phonopore, as he calls his device, admits of the duplication at small expense of ordinary telegraphic facilities, but there are reasons for thinking that the time is coming when it will be found useful in a number of other directions. What the phonopore does is to utilize a species of electric energy which is not brought into service by the ordinary electrical devices. This device is undoubtedly founded on the phonoplex.

William J. Syms, who made a fortune during the war by selling small arms to the Government, is dead. He was the organizer and president of the old Franklin Telegraph Company. He also organized the Atlantic & Pacific Telegraph Company. Both these companies were captured by the Western Union, and Mr. Syms became one of the directors of that company.

An electrical and industrial exhibition is to be held in Birmingham during the months of August, September and October.

The pleasant weather brings out spring pants. The District Telegraph boy don't get any in his'n.

FREDERIC NEWTON GISBORNE.

Frederic Newton Gisborne, engineer and electrician, born at Broughton, Lancashire, England, March 8th, 1824, is the eldest son of Hartley P. Gisborne, of Darley Dale, Derbyshire. The Gisborne family is one of the oldest and most honored of the county "trees" of England. He was educated in England, and in January, 1842, started upon a journey round the world, visiting the Cape de Verd and other Atlantic islands, Australia, New Zealand and the Society Islands. After touching at several other groups, including the Sandwich Islands, he rode across the continent, *via* the City of Mexico. He then traveled through Yucatan and Guatamala, and being from youth a keen sportsman and unerring rifle shot, had many stirring adventures during his travels, which terminated *pro tem.* by his return to England during the spring of 1845. Mr.



FREDERIC NEWTON GISBORNE, F. R. S., C. E., ETC.

Gisborne, accompanied by his younger brother, Hartley (who, some years later, became Director of telegraphs in Egypt, where he resided for nearly twenty years), then sailed for Canada, where they arrived July, 1845, and almost immediately afterward purchased a farm near St. Eustache, where they resided until 1847. F. N. Gisborne then became one of the first operators of the Montreal Telegraph Company, and for that company opened the first station at Quebec. Associated with the leading men of Quebec, the British North American Electric Telegraph Association was then formed for the purpose of connecting the Maritime Provinces with the Canadas, and, as general manager of the association, Mr. Gisborne visited New Brunswick and Nova Scotia, where he explained the science to the legislatures, then in session. His mission was so successful that the Government of Nova Scotia undertook to erect their own lines, conditionally upon Mr. Gisborne's services be-

ing transferred to them by the association which he represented. Mr. Gisborne returned to Quebec *via* the north shore of New Brunswick, during which journey he walked on snowshoes from Campbelltown to Metis, dragging over 100 lbs. weight on a toboggan across the Gaspé Mountains, 108 miles, within three days. For this service he received a handsome award from the association. From the spring of 1849 to 1851, Mr. Gisborne was superintendent and chief operator of the Government lines at Halifax, and strongly advocated telegraphic communication with the island of Newfoundland. During the winter of 1850-51 he visited that island for this special object. During the winter session of 1851-52, the legislature of the island granted F. N. Gisborne, and his associates, a telegraph construction charter, with exclusive privileges, for a term of thirty years, and, by permission, with most flattering testimonials from the Government of Nova Scotia, Mr. Gisborne resigned his superintendency and a good salary to carry out the enterprise which he had himself projected and initiated. He then visited New York, and there obtained an assurance of all the capital required from Horace B. Tibbetts and D. B. Holbrooke, of New York, and from Thos. A. Dexter and Gen. John Tyler of Boston; and upon his return to Halifax again advocated the then astounding and apparently chimerical project of a transatlantic submarine cable connection between Newfoundland and Ireland.

To Mr. Gisborne and to Canada is due the credit of the conception and primary practical movement for transatlantic telegraphy. On the 27th of November, 1852, Mr. Gisborne, under exceptionally difficult circumstances, laid the *first* ocean cable on this side of the Atlantic, connecting Prince Edward Island with New Brunswick.

Mr. Gisborne visited New York during the winter of 1853-54, and there for the first time met Cyrus W. Field, who was at that period a paper manufacturer, and had no connection with telegraphy whatsoever. After examining his plans, and reading his correspondence with Mr. Brett, Mr. Field was greatly impressed with the importance of the enterprise, and their after negotiations terminated by Mr. Gisborne returning to St. John's Newfoundland, accompanied by Cyrus W. Field and his brother Dudley, the well-known lawyer, when the legislature, per Mr. Gisborne's petition, canceled the original charter to himself and his original associates, and granted a new one to the New York, Newfoundland and London Telegraph Company, incorporating Peter Cooper, Moses Taylor, Marshall O. Roberts, Chandler White, Cyrus W. Field and Frederic Newton Gisborne, with extended privileges and exclusive rights during a period of fifty years from date. Mr. Gisborne was appointed chief engineer, and in 1856 completed the work to the entire satisfaction of the company, receiving from Peter Cooper, President, a flattering testimonial as to his skill, energy and integrity.

Mr. Gisborne in 1879 was offered and accepted the superintendency of the Dominion Government Telegraph and Signal Service, a position which he at present occupies.

Mr. Gisborne is a ready speaker, and has lectured frequently upon a great variety of subjects. He is also a pungent writer of press articles.

Mr. Gisborne is the projector of the direct trans-Atlantic cable to Canada, via the Straits of Belle Isle, and also of the trans-Pacific cable from Canada to Australia, via the Aleutian Islands, Japan and New Guinea.

The Staten Island Rapid Transit Railroad Company have almost completed their new passenger ferry house foot of Whitehall street in this city, replacing the old tumble down structure with one of the finest ferry buildings in the city.

Electricity moves 288,000 miles per second; light moves 192,000 miles per second; a rifle ball moves 1460 feet per second.

Mr. Wm. J. Feiser, formerly agent S. V. R. R., at Lithia, Va., has been appointed train dispatcher, N. & W. R. R., Bluefield, W. Va.

A FEW BREVITIES.

"D. E."

An entomologist visited the office a few days ago. It is natural to infer that he knew where to find a good collection of bugs.

A joint debate between two well-known operators in the Race Bureau is on the tapis. Subject: "Which is proper? 'They *are* off' or 'They *is* off?'"

Manager (to assistant manager)—"You will have the operator who worked under Professor Morse report to the Centennial Committee on the 30th for duty."

Assistant Manager—"That will never do, sir. There isn't a modern operator in the country who can read him."

First Class in Electricity (Cooper Institute)—"Now, boys and girls, what is a pole changer?"

Little Girl—"Mayor Grant."

Mr. Kirby, of the C. N. D., is writing a novel on "Love and Pickles." The scene is laid in the city department.

Manager Lloyd, Chicago, (to new arrival)—"You are from New York, I believe?"

New Arrival—"Yes, sir."

Mr. Lloyd—And I presume you worked the first Chicago quad. there?"

New Arrival—"No, sir."

Mr. Lloyd—"Then perhaps you were on the Southern wires?"

New Arrival—"No, sir."

Mr. Lloyd—"In which division did you work?"

New Arrival—"In the Jersey division, sir."

Mr. Lloyd to Chief—"Put this man on the new Oklahoma duplex. He is just what we want."

The Commercial Union Telegraph Company, Vermont, has declared a semi-annual dividend of 5 per cent. on the earnings of the six months ending April 1.

The Executive Committee of the National Telephone Exchange Association, Secretary Barney announces, has decided, by the unanimous vote of its members, that the next meeting of the Association, which is to be held in Minneapolis, Minn., shall commence on Tuesday, September 10, at 11 A. M.

Edward Harland, receiver of the American Rapid Telegraph Company, has sued out a writ of attachment at Cincinnati, Ohio, on the property of the United Lines Telegraph Company there and elsewhere in Ohio, on an alleged claim of \$225,000 as compensation for the use of the lines of the company represented by plaintiff, the lines in question extending from Cleveland to Chicago.

At Sharon, Pa., recently a test of an electric brake was made in the presence of Lake Shore and Michigan Southern Railroad officials by the inventor, Jacob Harrington. The brake is controlled by a dynamo on the locomotive, and a touch by the operator brings the train to a dead stop almost instantly. In case a train breaks in two sections, a separate motor automatically stops the train. The system is made up of a series of magnets on each car.

The British postmaster general says: "The advantages of laying wires underground are fully appreciated by the department, and a considerable mileage of underground wires already exists; but the system is so much more costly than that of carrying wires overhead as to preclude its indefinite extension."

On the Canadian Pacific Road, where the snowsheds are in close proximity, an underground cable is used to secure communication and promptly to locate the site of interruption. At isolated sheds and suspected points very high poles carrying the lines clear of all probable obstructions are employed,

Prof. Wheatstone, of King's College, London, was one of the several persons who in 1837 claimed the honor of having invented the electric telegraph. He first applied for a patent for making the electric magnet act at long distances. In July, 1837, wires were laid down from Euston Square to Camden Town Station, in London, and Prof. Wheatstone sent the first message to Mr. Cooke, his coadjutor in the work, between the two stations. The invention was immediately patented, both in England and America, and it is stated as a curious fact that the American patent granted to Wheatstone & Cooke is earlier in date, by just ten days, than the first patent obtained by Morse. Prof. Wheatstone has made many inventions and improvements in electrical machines. In 1830 he constructed the first electrical machine for sending several messages at once. The telegraph apparatus now used throughout Great Britain was invented by Prof. Wheatstone.

The new storage battery street cars of the Electro-Dynamic Company, of Philadelphia, made a very successful trip recently over the Darby Branch of the Traction Line. This particular road was selected for a trial owing to the long, steep grades and sharp curves with which it abounds. The car started off at a speed of about six miles an hour. Not the slightest decrease of speed was noticeable in ascending the steep grade just beyond the depot, and when on the level the car easily ran at ten or twelve miles an hour. It was started and stopped with the greatest ease. The weight of the battery, motors and gearing is about two and a half tons. When fully charged the battery will run the car, loaded, for sixty miles before it is necessary to recharge it.

The Postal lines now being erected in the South are, without doubt, the finest and most substantial ever placed on poles. The entire equipment is first class and of a nature which, from appearance, indicates permanency. Superintendent Kates is making a thorough inspection of every mile of wire built.

The message was sent: "Send coat Mad. At once." The receiving operator made it: "Send cow man at once." The message was from a merchant tailor, and had not the party to whom the message was addressed asked to have it repeated, the cow man in all probability would have been sent.

G. W. Dillingham, the well-known New York publisher, reports a sale of 1,800 copies of Elmer E. Vance's novel "Nellie Harland." The sale is unprecedented and represents but nine months on the market.

"Necessity is the mother of invention." Now that the overhead wires have been removed in New York City, it will not take long to devise ways and means of making the conduits work successfully.

The electric plant in the residence of Mr. Potter Palmer, in Chicago, is believed to be the first in which so large a gas engine has been used for incandescent lighting in connection with accumulators.

Recent experiments in electrolytic treatment of sewage, by the Webster system, have proven successful in London, and a useful future awaits this novel and latest application of electricity.

Sir W. Thomson is engaged in making a set of electrometers which will measure by electro-static force potentials of from 40 to 50,000 volts.

The United States furnishes by far the larger part of the electric wire to be used in the Paris Exposition building.

A number of potters are now using electricity for the purification of kaolin and other porcelain clay.

The sounds of the heart have been recorded and reproduced by the phonograph.

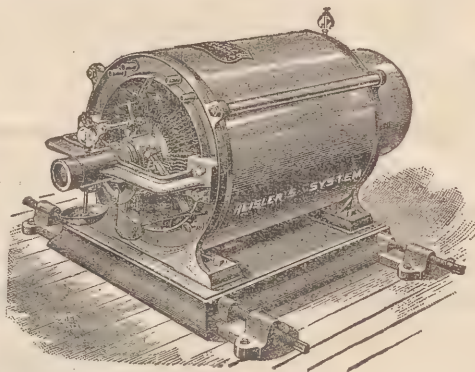
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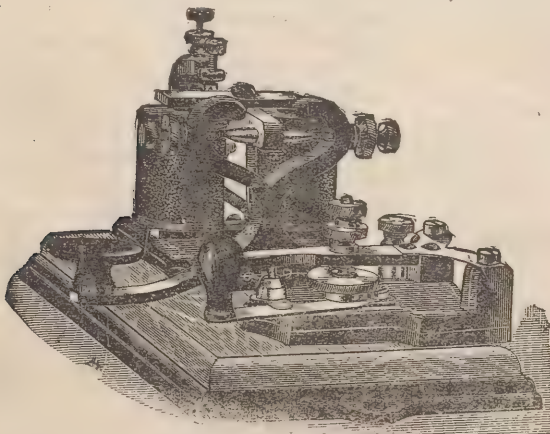


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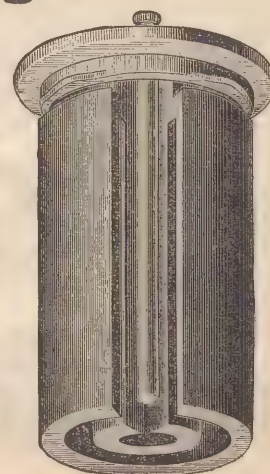
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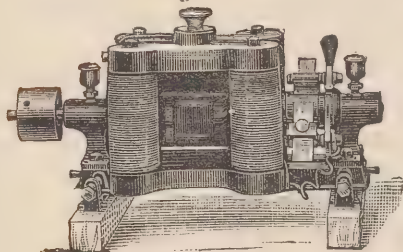
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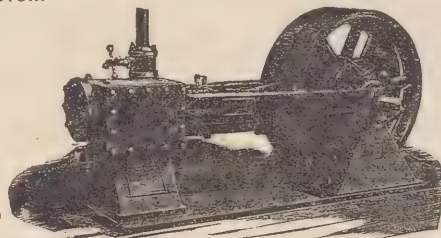
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DIED.—At Albany, N. Y., April 16th, of gastritis, Wm. H. Weed, in the 43d year of his age. Mr. Weed was born in Mexico, Oswego County; N. Y., and was educated in the Academy there. He was well known throughout the State, was for a long time General Passenger Agent of the New York and Oswego Midland R. R. Company, also Superintendent of its telegraphs, and at one time a District Superintendent of the Atlantic and Pacific Telegraph Company. During recent years he has been engaged in the construction of telegraph and telephone lines, and because of his intimate knowledge of telephone matters, was appointed Clerk of the Assembly Telephone Investigating Committee. For many years he has resided in the village of Mexico, and was closely identified with everything designed to improve that village; was a Trustee of Mexico Academy, and was active in the organization of the fire department, one of the companies bearing his name. Mr. Weed was one of the most popular men in the telegraph service, genial and sunny in his nature, true to the interests he served, and kind and considerate to his employees. He was a member of the old time Telegraphers' Association, and of the Telegraphers' Mutual Benefit and Gold and Stock Life Insurance Associations, and is said to have carried a life insurance of about \$15,000.

DIED.—Wm. M. Willis, of the W. U., Chicago, Ill., died March 18, aged 52 years.

DIED.—Jean Baptiste Larente died in Quebec April 5, of inflammation of the brain.

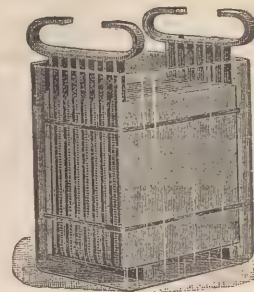
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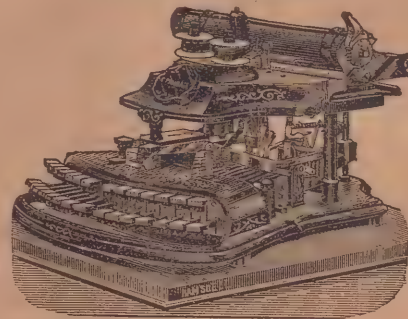
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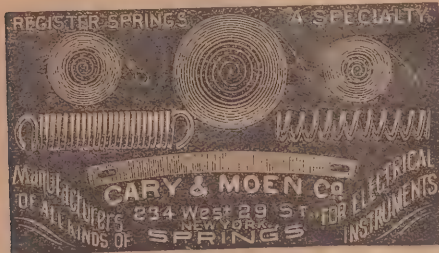
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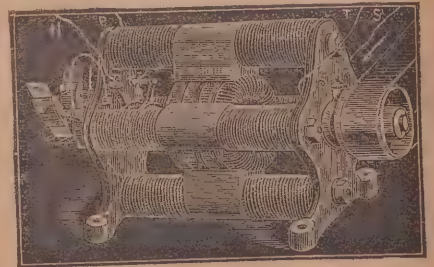
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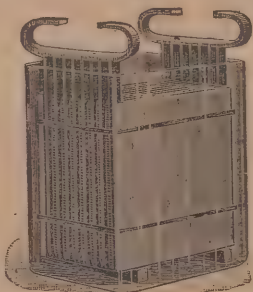
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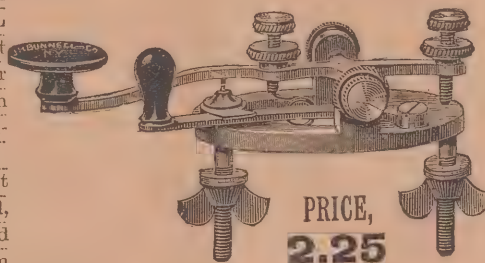
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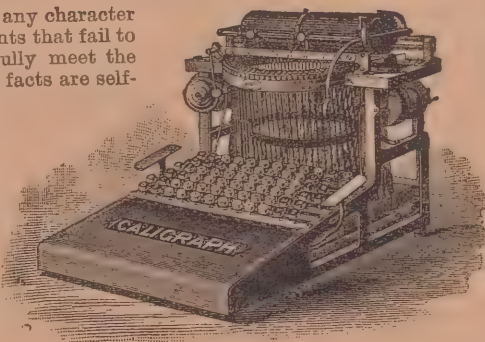
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C. G. Muller, Esq., Agent Caligraph, Cincinnati, O. October 5th, 1885.

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Signed; Chas. E. Thorp, Telegraph Editor, C. G.

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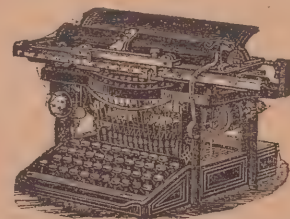
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NEW YORK, MAY 16, 1889.

THE PHILLIPS CODE.

In another column we print an advertisement of Mr. Phillips' remarkable little book of contractions, familiarly known to hundreds of telegraphers as the "Phillips Code." Since 1879, when the book was originally published, Mr. Phillips has been leasing the code, together with ink recorders of his own device, and has derived a handsome income by this plan of operation. The general adoption of the type writer for press work, however, having demonstrated that sending operators may abbreviate, intelligently, without hurrying the receiving operators, the author has now decided to throw open his system of codification to all who may desire to use it.

Aside from its great usefulness in handling press reports its utility for short-hand reporting has hundreds of illustrations, one of the most striking of which is the case of Edwin M. Hood, one of the best reporters connected with the Associated Press in Washington. Mr. Hood was originally engaged, while a boy, as a "tape" reader in the Washington office of the Associated Press under Mr. Phillips' administration. He began reporting in a modest way and had progressed so far in 1881 that he furnished the excellent and vivid reports of the Star Route trials, making all his short hand memoranda in the Phillips Code.

Beginning with this means of reporting Mr. Hood advanced, step by step, until he has now no superiors in Washington as a descriptive writer. The reports of both Press Associations on the Inauguration ceremonies, in March last, commanded the admiration of newspaper men everywhere. These reports, in both instances, were the product of collaborated effort, but in the Associated Press report the work which was done by Mr. Hood was particularly noticeable as being of superb quality. It is an old saying that a man may start in with a shoestring and acquire a tanyard at the finish, but it is a more creditable achievement to begin as a reader of dots and dashes, representing words in an abbreviated form, and in the course of eight years become a journalist, conspicuous even in Washington, where the standard of newspaper writing is hoisted much higher than it is in any other part of this glorious land of freedom.

Another case in point is that of Fred N. Bassett, now General Eastern Manager of The United Press. From sending the Phillips Code on the Chicago *Inter-Ocean* wire he was enabled to take a position as Private Secretary to

Thomas L. James, when the latter was chosen by President Garfield as his Postmaster-General. Mr. Bassett's record in taking letters from dictation in the Phillips Code, while in the post-office department, was even better than that of the expert stenographers engaged in similar work, but being a man of energy and brains his greater usefulness was soon recognized and Timothy O. Howe, who came in as General James' successor with the advent of the Arthur administration, acting on his predecessor's recommendation, quickly advanced Mr. Bassett to the position of Chief Clerk of the Department—a position, when filled by a man of his capabilities, which ranks ahead of the positions of Assistant Postmasters General.

Attention is called to the advertisement of the Empire and Bay States Telegraph Company published on another page. This young but healthy corporation is now in the field competing for leased wire patronage between New York and Boston. It is to be hoped that it will receive a fair share of the business which it is so well prepared to handle. Operators will find it to their interest to extend a helping hand in this direction. Wendell Goodwin, the president, is favorably known in electrical circles through his connection with the Standard Multiplex Co., and other enterprises. J. W. McLaren, the general superintendent, is too well known to need an introduction either to the fraternity or the brokers. His energy and shrewdness are bound to bring success to any company which may be fortunate enough to secure his services.

During the Centennial celebration in New York, permission was given to string wires along parts of the route of the parade. At various points there were telegraph stations, from which the operators would report the arrival of the head of the parade, and from time to time wire to the committee the general condition of affairs in their respective localities. In this way, the telegrapher played an important part in the successful carrying out of the programme.

Col. Finley Anderson, secretary to Walter P. Phillips, of The United Press, was honored during the Centennial celebration by being appointed as one of the aides to Gen. Schofield, of the United States Army. Col. Anderson soon sails for Europe to make an extensive enlargement of the cable service of The United Press.

St. Joseph, Mo., is called the Electric City of the West because its citizens show more enterprise in securing everything electrical than those of any other city in the Union.

Electrical Instrument Making for Amateurs.—A Practical Hand-book. By S. R. BOTTONE. Cloth, 175 pages. Fifty-nine illustrations. Price, \$1.20. In this work the author has attempted to guide the novice in his attempts at the construction of the more useful pieces of electrical apparatus. No attempt has been made to describe the production of highly finished "brass and glass" instruments. Such a high degree of finish requires a technical knowledge of French polishing, lacquering, burnishing, etc., as is not usually possessed by the amateur. The tools used are supposed to be of the simplest description, such as may be found in every home. Not one of the instruments described necessitates the employment of a lathe or other expensive tool in its manufacture; though, of course, much truer and finished circular work can be done on the lathe than in any other manner. But the instruments produced as described in this way may be relied upon to act efficiently; and this is, after all, the end for which every instrument is constructed. Copies of the above book, or of any electrical work published, will be mailed, postage prepaid, on receipt of price. Remit by Post-Office Order, Express, Draft or Registered Letter. Address J. B. TALTAVALL, 5 Dey street, New York.

AYRTON & PERRY'S HOT WIRE VOLTMETER.

The pull of the platinum wires, W W, and spring, M, act in the same direction, and are counter-balanced by the flat spring, S. Hence, as the wire stretches, the magnify-

spring, S, comes into contact with the screw, D, and the working wire is short-circuited. The circuit is then temporarily completed through the lead, L, to the left of the flat spring, S, and the fuse, F, when the current increases and the fuse melts without damage to the instrument.

The sudden application of a current five or six times

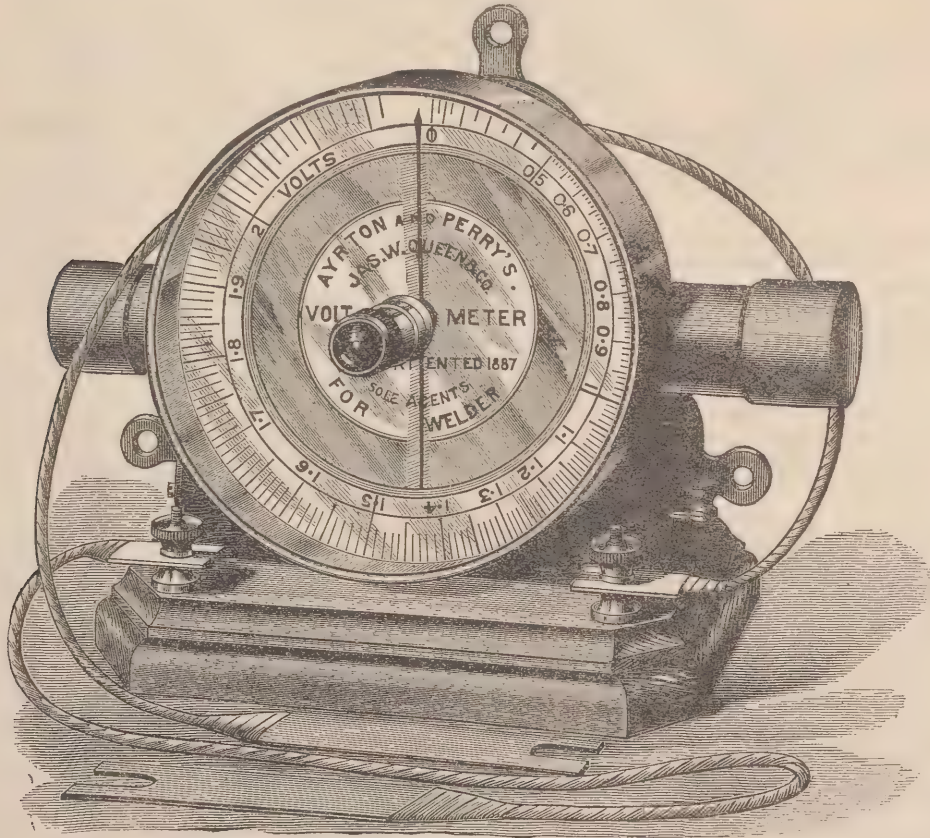


FIG. 1.

ing spring, M, is stretched, and the pointer, P, to which a number of fine hairs are attached to introduce damping without solid friction, rotates. The flat spring is not only introduced to enable the depth of the instrument to be diminished by twice the sag of the wire, but to enable a particular arrangement of fuse to be employed.

as great as the maximum the voltmeter is intended to measure, melts the fuse without damaging the working wires. James W. Queen & Co., 924 Chestnut Street, Philadelphia, are the sole agents.

A despatch from Ponca, on the Sante Fe Railroad, in the

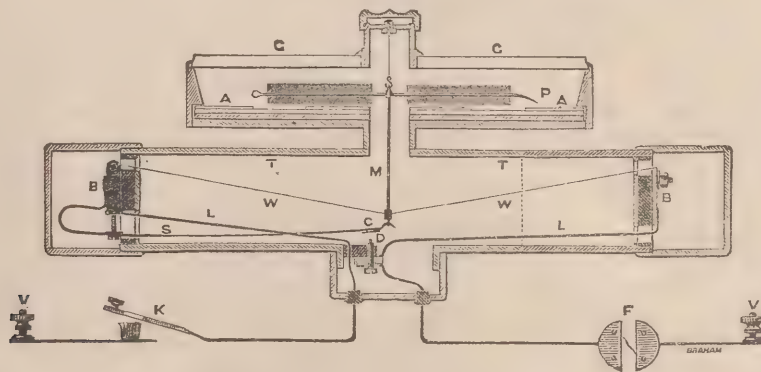
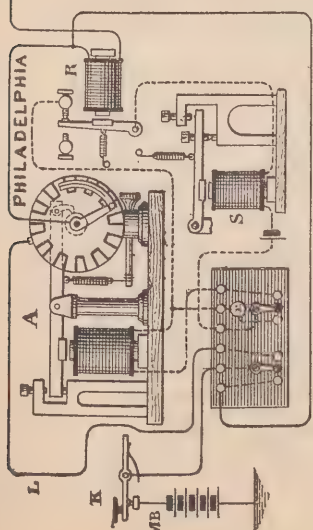
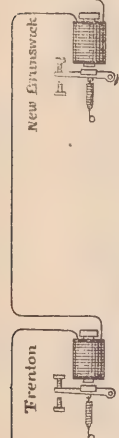
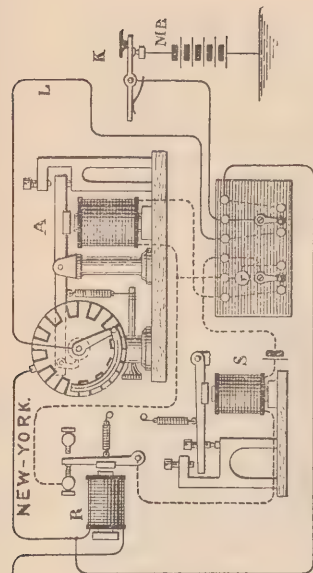


FIG. 2.—HORIZONTAL SECTION.

The fuse, F, is of such a diameter that it would require a far larger current to melt it than would damage the instrument. In addition, a platinum-tipped screw, D, is arranged so that when the wire, W W, stretches by any pre-arranged percentage beyond the amount it stretches for the maximum safe, P D, the platinum tip, C, of the flat

Ponca Reservation, thirty miles south of Arkansas City, Kansas, says the Western Union Telegraph Company has reached that point with a second wire, and will extend it to Purcell as fast as men and means can get it there. This wire is very much needed and will greatly facilitate the getting of news from Oklahoma.

DELANY'S TELEGRAPH LINE ADJUSTER.



THE DELANY LINE ADJUSTING SYSTEM.

Patented Sept. 4th '88 April 16th '89.

FIG. 1.—CIRCUIT WITH DELANY'S TELEGRAPH LINE ADJUSTER.

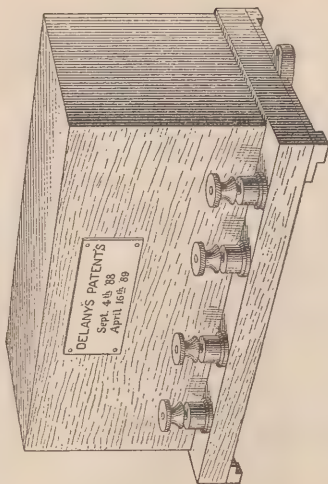


FIG. 3.—DELANY'S LINE ADJUSTER.

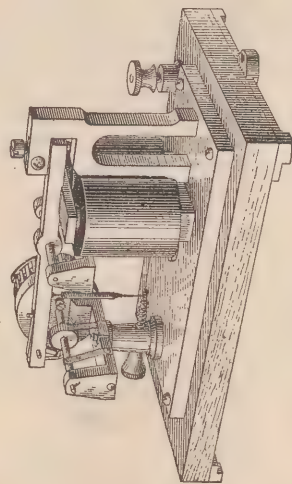


FIG. 2.—DELANY'S LINE ADJUSTER.

From the beginning of practical telegraphy there has been one difficulty which has never been overcome or even partially remedied. It is the trouble arising from relays on the line not automatically conforming in adjustment to the changes which take place in the condition of the circuit, and the consequent interference or "breaking in" by operators whose instruments are out of adjustment. Most telegraphers have done their share of "breaking in" at some stage of their career, and certainly all have experienced the soul-destroying exasperation of vainly trying to make an impression upon the guileless youths up the line who render the wire useless and life a burden by their neglect in adjusting their relays. Numerous attempts have been made to overcome this difficulty by the use of "self-adjusting" relays; but none, as far as we are aware, have ever been successful in practice.

The polarized relay is the only self-adjusting instrument. But the double current system is not used in this country, owing principally to the impracticability of working wires with any considerable number of way offices, each office requiring a main battery. The number of way stations on European circuits rarely exceed four or five, while in this country as many as fifty stations are sometimes connected on one circuit, and thirty is not an unusual number, especially on railway wires. In bad weather so large a number of relays in the line deplete the circuit greatly; and even though the wire be fairly well insulated, much of the current goes down the poles, thus enveloping the way station within the influence of the main battery at one end of the line or the other to such an extent that they are unconscious of the makes and breaks on that part of the circuit within the influence of the other main battery.

In view of what has just been said, probably none of the numerous recent improvements in telegraphy will attract more attention among practical telegraphers than Mr. P. B. Delany's latest invention called the "line adjuster," and which has just been patented to Mr. Delany. This adjuster makes all the operators on the line aware that the line is in use, and their relays must always respond no matter what station may be working. So long as it is possible for one terminal office to communicate with the other terminal office all intermediate instruments will be affected. This is accomplished by the breaking of the circuits at *both* ends of the line simultaneously, so that there is a moment during which there is no current whatever on the wire.

Ordinarily when New York, in the accompanying diagram, Fig. 1, opens his key he simply disconnects his own battery, leaving the Philadelphia battery to find its way down every pole up to the New York office, thus making a circuit for Trenton and all the other way stations near Philadelphia when the New York key is open. Unless these way stations watch their adjustments their relays will not be affected by New York's makes and breaks. With the new adjuster it is very different. When New York opens his key he not only disconnects his own battery from the line but also disconnects the battery at Philadelphia *for an instant*, so that all the way station instruments respond, regardless of the tension on their relay springs or of the condition of the circuit. If the terminal stations can work, all the intermediate instruments work as clearly and reliably as if the weather was fine and the wire in perfect order. Thus there can be no excuse for not answering calls promptly or for "breaking in" by reason of instruments being out of adjustment, since by this system they are always adjusted.

In this manner the entire line is kept in order by the simple instrument at each end. No change whatever is made in the apparatus at intermediate offices, and the

only change at the terminals is the addition of the "adjuster" in the local circuit with the sounder, requiring three cells of additional local battery. A short study of the connections will make the operation of the system plain. With the switches at Philadelphia and New York thrown to the right, Fig. 1, the main circuit is made up from main battery *MB*, through key and switch to the set of segments in the circuit table of the adjuster *A*, through the trailer to relay *R*, to line.

The circuit being normally closed the local circuits of the sounders and adjusters are also closed. Now if Philadelphia, for instance, opens his key, of course he disconnects his battery from the line at the key, and if New York be adjusted (it must be assumed that terminal offices are always adjusted), his relay armature will leave its front stop and break the local circuit of the sounder and adjuster. As the lever of the adjuster goes up, the dog at the back end of the adjuster, shown in Fig. 2, engages a tooth of a ratchet wheel on the shaft of the trailer, and the trailer is moved across the face of an open or disconnected segment, thus opening the line at New York during the time that the trailer is going across the face of the open segment. When the adjuster lever reaches its upper stop the trailer will be on one of the line segments again, so that when New York closes his key, the circuit will be complete again.

It will be observed that when the adjuster lever goes down, the trailer remains stationary. It is only moved when the lever goes up. So that when a terminal station operator is transmitting, the line is opened at his key, and at the distant end also for an instant, thus leaving the line dead open at both ends. When an intermediate station operator transmits he not only opens the line at his key, but also at both ends for an instant, so that in either case, the line being dead open at both ends, every intermediate relay must respond.

In fine weather, when the lines are perfectly clear, the switches are thrown to the left, thus cutting out the adjuster, and substituting in the local circuit with the sounder a resistance *r*, Fig. 1, equal to the resistance of the adjuster magnets. The adjuster, which is not much larger than a common sounder, is inclosed in a box, Fig. 3, and may be placed anywhere most convenient in the office, as it need not be on the operating table or even within sight.

Mr. Delany claims that one of the instruments placed in the middle of a line will, in a measure, act as an automatic repeater and greatly improve the working. A few of the new instruments have been in use on trial on leading railway lines for several months past, and have given great satisfaction.—*Electrical World*.

A few days ago George Saxton, a messenger boy of one of the Western Union Telegraph offices in Philadelphia, made a wager that he could walk from Broad and Chestnut streets to Bristol, Pa., and back in one day. He accomplished the feat in ten hours and forty minutes. The distance traveled was forty miles.

"Thanatelectrization," is a new word which has been proposed to designate executions by electricity. In cases of emergency its pronunciation might also serve as a test of sobriety.

The Commercial Union Telegraph Company, of Maine, has been leased to the Commercial Union Telegraph Company of New York.

The Massachusetts legislature is desirous of changing the present system of taxation, so that it may increase the Western Union taxes.

The stern parent who had reason to believe his son was becoming fast immediately obtained him a position as messenger boy.

EMPIRE AND BAY STATE TELEGRAPH Co.—At a special meeting of the stockholders of the Empire and Bay State Telegraph Company a few days since the following directors were elected: Wendell Goodwin, Eugene Durwin, James A. G. Beales, John Byrne, W. F. Walworth, William H. Hurst, Joseph Leavy, M. J. Newman, George H. Wirth, H. B. Slaven, James J. Phelan. At a meeting of the board of directors the following officers were chosen: President, Wendell Goodwin; vice-president, James J. Phelan; treasurer, James A. G. Beales; secretary, George H. Wirth.

The Illinois Valley Electric Light and Power Company has been organized at Ottawa, Ill., to operate in the cities of Ottawa, Marseilles, and Seneca, all located on the Illinois River. In view of the fact that the water power privileges at Ottawa are controlled by rival companies, the promoters of the new enterprise were compelled to look elsewhere for a location. The next best point being Marseilles, it became necessary to select a system which could be operated successfully at this distance. After some months of investigation, the Company closed a contract with the Heisler Electric Light Company, of St. Louis, whose long distance system was found admirably suited for use under these conditions. Ottawa is located near the center of La Salle County, and is eight miles from Marseilles. Seneca is near the county line and is three miles from Marseilles and thirteen miles from Ottawa. The amount of water power available at Marseilles is practically unlimited. The plant now being installed will be of a capacity of about 700 30-candle power lamps, but it will soon be increased to 2,000. It is expected that this capacity will be required for the public, commercial and domestic lights in the three cities.

The Elektron Manufacturing Company, of Brooklyn, N. Y., announces that its rapidly increasing business has necessitated the enlargement of its factory, and in order to further facilitate the filling of its orders it has transferred its headquarters to its factory at Brooklyn.

Arthur L. Thomas, recently appointed Governor of Utah, is a well-known, old-time telegrapher, better known, perhaps, in Pittsburgh, where he rose from a messenger boy to a Member of Congress.

Mr. E. Leloup, superintendent of the G. C. & S. F. R. R., until that company's absorption recently by the A. T. & S. F., is now manager of the Southern Bell Telephone and Telegraph Co., at Birmingham, Ala.

Captain Samuel Trott and electrician F. A. Hamilton advocate hempen cable for deep water and protest against the failures made twenty or thirty years ago being used as arguments against success now.

Lightning has already been known to strike overhead electric wires and discharge itself, through the dynamo, to earth to the imminent danger of the machine.

Josephine Bedurd, the faster, claims that she has lived on electricity seven years. But so has Edison, and supported his family, too.—*Albany Journal*.

Now that the telegraph profession at large owns the ELECTRIC AGE and its valuable plant, an immense increase in business will surely follow.

The Commercial Cable Co. have opened an office at 30 Union Square, whence cablegrams can be forwarded to all parts of the world.

Mr. John Mitchell, of The United Press, Auburn, N. Y., has accepted a position with the same corporation at Newburg, N. Y.

A London paper thinks that telephones are more generally used in Sweden than anywhere else in the world.

ELECTRIC LIGHT.

THE PRECAUTIONS TAKEN BY INSURANCE MEN.

At the meeting of the Buffalo Electrical Association, May 6th, an interesting and timely paper was read by J. P. Chapin. It consisted of a review of the regulations observed in various cities in laying electric wires, and the general conduction of electric lighting.

He spoke of the relations between the insurance people and electric light companies. Were so many precautions taken because of the damage which electric light had caused or through an unexplainable fear? Some people imagine that if the wires were laid within the minimum distance prescribed by the fire underwriters, some fearful explosion would occur. He read the conditions which the New York Board of Underwriters oblige all electricians to comply with in laying wires. In all cases, where the situation admits, the wires must be strung on poles.

When there is a necessity for wires to touch a building they must hang at least seven feet above the roof. Rubber tubing will not meet the requirements of insulation in interior work, and waterproof insulation is to be used in all cases where the nature of the work requires it. The Boston regulations are in the main identical with those of New York, and stipulate that all incandescent light wires shall be thoroughly insulated when hung on chandeliers. Here the lecturer asked: "Why are gas companies not subject to such strict rules? Why are they not obliged to submit samples of their work to the Board, and why not compelled to attach an automatic switch to act in case of a leak or of the gas being blown out?"

He noticed from the regulations that there was no inspection of insulation. A letter from Boston was read, acknowledging that no such inspection was made in that city. Baltimore merely examined the wires to see if they met the requirements of New York and Boston. In Philadelphia scarcely any accidents occur, although 1,200 houses are lighted by the great element, if it may be so called. In Chicago the city authorities do the work, which in other cities is done by the Board of Underwriters, and a certificate of inspection is issued by the Superintendent of Telegraph.

Mr. Chapin urged the drawing up of standard regulations by practical electricians, the inspection also to be made by men of experience in that line, instead of leaving the matter in the hands of fire underwriters. He thought that the work could be handled far better by men acquainted with the business than by those who sought only to protect their own interests.

No discussion of the paper was made. A committee was appointed to make preparations for the final meeting of the year, which will take place May 19, and also for a banquet to be given two weeks from that date, when the Society will adjourn for the summer.

BIRMINGHAM, ALA., May 1.—During the storm last evening about 6 o'clock lightning struck the Western Union Telegraph wires connected with the office at Jasper. The current was carried into the office, and the operator, a young man named Hudd, who was receiving a message at the time, received a shock from which he died a few hours afterwards.

The way in which telegraph poles are springing up in the northeastern section of Philadelphia shows that underground wires are only a dream in that city.

The electric lamp promises great aid in studying the organic forms of the deep sea, as well as exploring the internal parts of living animals.

New York city's streets begin to look as if they belong to some other town. The wires are still falling.

THE BALL OF THE PHILADELPHIA AND READING RAILROAD OPERATORS.

The telegraph operators of the Philadelphia and Reading Railroad held their first annual sociable and ball at Musical Fund Hall May 3. There were about 150 operators on the floor, many of whom came from the towns along the main line and the Bound Brook division. The object of the sociable was to bring the operators into a closer social union, and it is the purpose hereafter to give these entertainments annually.

The grand march took place at 9.45 o'clock, and was participated in by seventy-six couples. During the intermission refreshments were served in the banquet hall. The grand conductor of the ball was C. R. Fletcher; conductor, G. W. Wilde; floor managers, S. M. Barr, J. M. Kelly, L. S. Eisenhart, H. C. Stump and J. W. Miller. The reception committeemen were: G. W. Wilde, S. L. Mitchell and W. J. Calnan.

The Brown & Sharpe Manufacturing Co. and Darling, Brown & Sharpe, Providence, R. I., manufacturers of the United States' standard rules, squares, gauges, etc., have issued a handy pocket volume covering these subjects which may be had free on application. The book is brim full of illustrations, valuable tables and knowledge.

Berly's Universal Electrical Directory for 1889 is before us. It is the most complete electrical directory ever produced and the electrical profession will find it of much value. It contains an index of classified trades and alphabetical lists of electricians. It is published by Messrs. W. Dawson & Sons, of London, Eng. Price, \$1.50.

Judge Simonton, at Harrisburg, has decided that the Western Union Telegraph Company has no right to remove its case to the Circuit Court of the United States. He also held that the electric light companies are not manufacturing corporations, and that the act of 1879, taxing capital stock, is constitutional.

BALTIMORE, POSTAL NOTES.—J. H. Twyford and J. V. Vogt are on the sick list. J. G. Morris is acting manager in place of Mr Vogt. J. Ward has returned from Chicago and resumed his old trick. We expect to move into our new six-story building, corner Baltimore and Holliday sts.

"Well, I'm surprised!" exclaimed Mrs. Pneumony, when she received a type-writer letter from her son, "to think that John, after going through college can't write anything but print letters."—*Boston Transcript*.

An accident occurred on the Central Railroad of New Jersey at Hopatcong Junction, May 7, caused by the neglect of an operator at Port Oram to give the train orders for another train to pass.

It costs little trouble to mention this paper when dealing with advertisers, while to us it is of the utmost importance, as all sales are credited to the influence of the journal mentioned.

Mr. J. R. Nolan, formerly of Baltimore, recently appointed general manager of the Wilmington Seacoast Railroad, has assumed the duties of that position.

During the coming summer Paris will light all her boulevards by electricity—a huge task for the electrical engineers.

Mayor Grant resembles George Washington in one respect, and that is, he knows how to wield an axe to good advantage.

Jay Gould was recently elected president of the Texas Pacific Railway in place of John C. Brown, resigned.

A race between electrical launches lately took place in London. Five boats took part in the contest.

THE PARIS EXPOSITION.

The Paris Exposition of 1889 will surpass all previous undertakings of the kind. Our engraving of the buildings, grounds and the Eiffel tower gives an idea of the extensive preparations being made to accommodate the countless thousands of people who will attend the exhibition. The Eiffel tower is the one great object of interest. Being 1000 feet in height, the view from the top, on a clear day, is from 60 to 70 miles in any direction. Its cost was about \$2,000,000, and it is to be lighted by electricity from top to bottom. Over 150 acres of ground are laid out for the exposition buildings.

The exposition, which has already opened, has stirred up great interest in the minds of the people throughout the world, and especially among the electrical fraternity in the United States, a large number of whom expect to visit Paris during the summer.

The machinery hall, in which the electrical exhibits will be placed, is one of the largest and most elaborate buildings ever erected. It is 1,400 feet long, by 400 feet broad and 200 feet in height. The roof is supported by immense arches, rising from the floor on one side and stretching across to the other. The immense roof is covered with the coats of arms of the leading cities in the world.

Along the entire floor is trestle work, resembling the elevated roads of New York City, upon which rests immense cranes used in placing the machinery in proper position.

As yet the exhibits are but partly opened, consequently disorder and chaos are apparent everywhere.

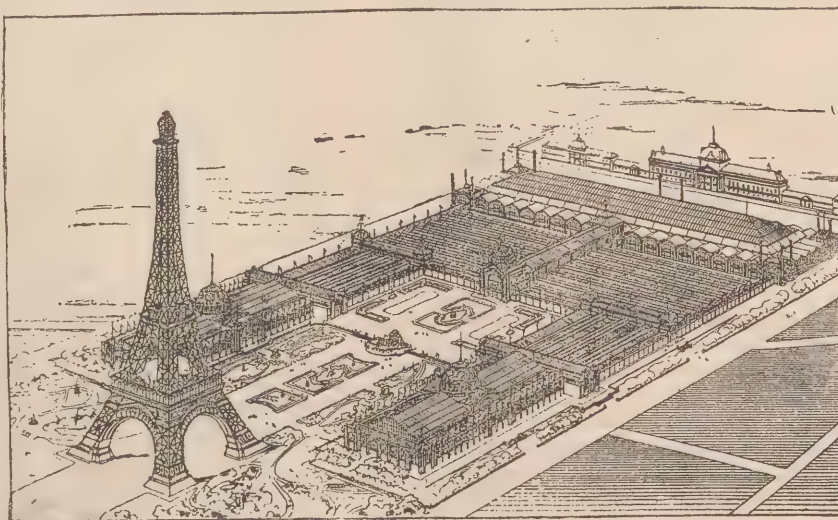
Over 10,000 men are at work, day and night, getting things in readiness and in order.

The exposition will be an immense success from the very start.

The exposition was formally opened by President Carnot on May 6th. The American representation is the furthest behind. There is not, for instance, at this writing, a vestige of the great National educational exhibit to be seen, nor are the consignments sent from the individual States, nearly all of which are to be represented, out of the packing boxes. So far as the present indications go, the American exhibit on the industrial side will be most impressive in gold and silver metal work, in glassware, which has made a marked sensation among the French and Austrian glassmakers, and in machinery. The American Corn Palace, where the uses of this article of food are to be picturesquely introduced to Europeans, is located near the Trocadero.

The Palace, rightly so named, devoted to machinery, is a magnificent edifice, in which a world's congress might sit. Its architectural beauty and the splendor of the decorations alone render it one of the great centers of interest. The chief attraction in it is the Edison display of motors, machines and apparatus.

It is proposed to lease the telephone system of Paris to the subscribers as a co-operative society.



PARIS EXPOSITION.

THE UNITED LINES TELEGRAPH COMPANY.—The United Lines Telegraph Company has filed an answer in the Superior Court to the petition of Edward Harlan, receiver of the American Rapid Telegraph Company, wherein \$225,000 is claimed for the use of plaintiff's wires, poles, etc., since July 30, 1885. It is claimed that the American Rapid Company is now the property of Edward A. Stokes, of New York. It is further claimed that the whole subject of controversy is now in litigation in the Supreme Court of the United States, the suit having been recently appealed thereto from the Circuit Court of New York.

Frank McGowan was sent a year and a half ago to the wilds of South America by Edison, the inventor, to find the best kind of bamboo for making the carbon loop for the incandescent light—something which should be most tough and durable. This discovery, it is asserted, Mr. McGowan, after almost incredible adventures and suffering, made, and another of the electric light problems is thus solved.

The attachment suit of E. L. Martin against E. S. Stokes for \$89,000, due on a purchase of Pacific Mutual Telegraph Company stock, has been dismissed.

Since the electric light plant in the Hoosac Tunnel was completed, much trouble has been experienced with the wires, it is reported. There was considerable loss of current, the lights, falling below their candle power, owing to the complicated conditions of the atmosphere and to water. The electrician, who put the plant into successful operation last November, has been engaged since that time in overcoming the obstacles, and the tunnel is now lighted its entire length,

showing clearly to passengers the construction work.

A medical journal says there is talk of applying telephones to the infectious wards of the French hospitals, so as to enable the sick people who are isolated to have the comfort of hearing their relatives' voices, without any risk of conveying infection by an interview.

A misunderstanding of telegraph orders resulted in a collision on the Northern Pacific Railway, on May 6, which caused two deaths. Operator Fitch, at Steele, is said to be responsible for the accident.

There is some talk of substituting the electrical accumulator for the primary battery in the telegraph offices. A want of confidence in the durability of accumulators in the past has been the cause of their not being adopted. The president of the Accumulator Company, Mr. D. H. Bates, an old time telegrapher, will now, no doubt, push the matter to the attention of all telegraph officials.

Mr. Ed. Borden, of Wilmington, N. C., succeeds Mr. Nolan as assistant superintendent of transportation of the Atlantic Coast Line.

An electrical railway is proposed from Red Bank to Seabright, N. J.

THE HEISLER ELECTRIC LIGHT SYSTEM.

The marvelous growth of the Heisler electric light system is best realized by calculating the amount of capital that has been enlisted in its behalf during the last two years. The Heisler Electric Light Company (\$200,000), the St. Louis Illuminating Company (\$100,000) and thirty-six central station plants in all parts of the country represent a capital of at least \$1,000,000. The great financial success which has attended every one of these enterprises, and the perfection of this system in supplying all possible requirements for light from one central point, combining successfully the illumination of the streets with the supply of light for commercial and domestic purposes, covering territories of any desired extension, have earned for the system its reputation as a most promising competitor of gas lighting. Its financial and technical strength has been chiefly brought to the test in the Eastern States, where in many instances it has superseded the old established companies furnishing gas and arc light illumination for entire cities. This remarkable success is due, in the first place, to certain inventions of great originality, the outcome of mechanical genius and persistent study and experiment in this and all other branches of electro-technic science; and second, to the superior methods applied in organizing the manufacture of the hundreds of articles constituting an electric plant; which embraces all degrees of mechanical skill from the construction of heavy machinery to the finest piece of mechanism. One of the most important branches is the manufacture of the Heisler incandescent lamps. This is forming a separate department of the factory on Seventh street, and it is stated the division of labor, and the control over manufacture by means of automatic regulating devices is so perfect, that it has been possible to dispense entirely with skilled labor, a matter of the greatest consequence for the reduction of the running expenses of the light plants.

The building of central stations in all parts of the country—Oregon, Utah, Kansas, Missouri, Indiana, Minnesota, Texas, Arkansas, California, New Jersey, New York (seven large plants in the immediate neighborhood of New York City)—which includes the construction of the electrical apparatus, the steam plant and the lines—has necessitated the keeping of a complete staff of expert electricians. The company has now at its command such an effective force of trained engineers, and the output of the Heisler factory has assumed such large proportions, that it would not require more than four months' notice to build a great central station for the city of St. Louis, with complete electrical and steam plants consisting of boilers, heaters, pumps, engines, dynamos and automatic regulators, including also the construction of the necessary lines for

supplying the street illumination over the whole extent of the city, an area covering about seventy square miles. Nearly 200 people are now employed in the various departments of the Heisler Company's works.

The St. Louis Illuminating Company's enterprise represents the first practical application of the Heisler system. It is one of the most extended incandescent plants in the world. The central station is at Second and Gratiot streets, and contains a steam plant of 500 horse power capacity, and electrical apparatus of a capacity of about 5,000 lights. The circuits extend over a territory of not less than twelve square miles. The company possesses pole lines along the streets from Fourth to Fourteenth, and along Olive street from Fourth to Grand avenue. The business of the company is conducted on a basis entirely different from that of the Eastern companies with the old systems, as its operation is not confined to the surroundings of the station, extending to wherever there is a call for electric light irrespective of the distance.

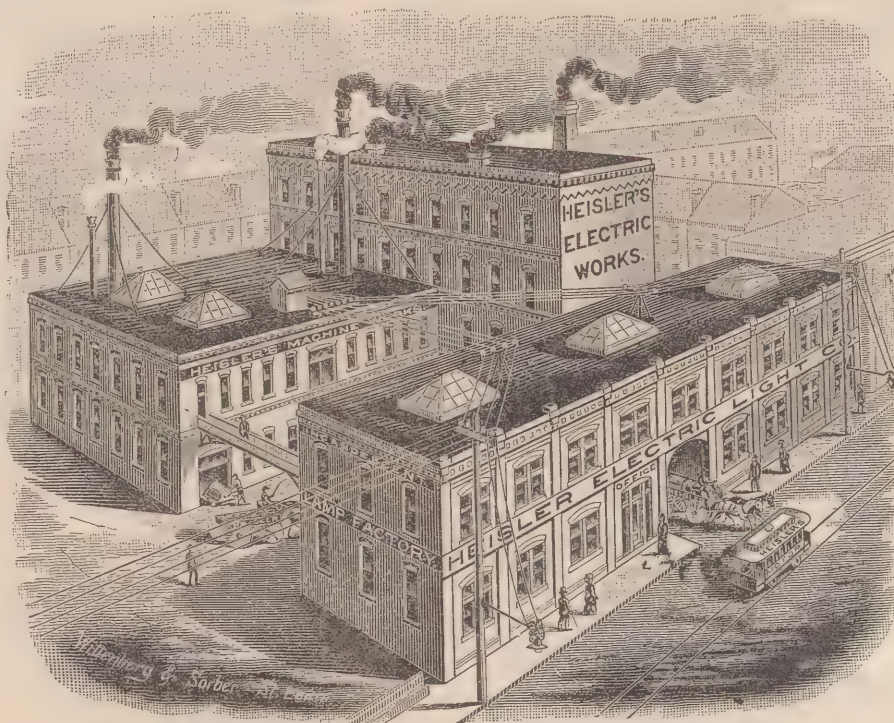
The distribution of candle power is of any variety from 15 to 200 candle power, to suit the different requirements of private residences, commercial lighting, halls, clubs, libraries, etc. The progress of the company has been wonderful during the past year in more ways than one.

The retail business of the city is more largely than ever employing the Heisler incandescent light for brilliant displays of goods and merchandise. Then, again, the financial success of this company is something remarkable in the history of electric light companies.

It has been on a dividend paying basis ever since it was supplying the first 40 to 300 candle power

lights. It is rapidly approaching a point where it will exercise a still larger control of the illuminating interests in St. Louis in regard to commercial and private lighting.

The career of the founder of these enterprises is a remarkable one, and furnishes abundant illustration of what can be accomplished by brains, pluck and enterprise. Mr. Charles Heisler, president of the company and managing director of the others, the St. Louis Illuminating Company and the American Carbon Company, (whose present interests are the result of his powers of invention and industry,) began his career in St. Louis in 1870, and has since done as much, or more perhaps, to render electric lighting practical and popular than any one else of his time. He is a German, possesses a thorough education, and is a mechanical engineer and electrician of repute both at home and abroad. He established himself here in the business of manufacturing hotel annunciators, house bells, burglar alarms, etc., which was a very successful enterprise from the first (1876). When his business had become thoroughly established and had reached important proportions he formed the Heisler Electric Bell and Burglar Alarm Company.



THE HEISLER ELECTRIC LIGHT WORKS, ST. LOUIS, MO.

The apparatus manufactured by this company are of a very superior order, and are in general use everywhere. There are many thousands of them used, and they are so perfect that no readjustment or attention is required after once up. Notwithstanding the great and immediate success which Mr. Heisler met in this line, his desire was to arrange and perfect a system of electric lighting, and much of his time was devoted to this object. He at last succeeded, and the value of his discoveries and patents were early demonstrated in St. Louis and other Western cities. So great was the success of this system, and so perfect the results, that in 1882 the Heisler Electric Light Company was incorporated with a paid up capital of \$200,000, and it has been most successful in its development and application of electric light for general illumination. While busily occupied with the manufacture of arc light dynamos and arc light lamps after his own pattern, he realized early the necessity of manufacturing the carbon points for electric light; and at a time when the manufacturer of this article was considered the secret of a few he proceeded to apply a manufacturing process on his own account, and to organize the American Carbon Company (1879.) He succeeded so well in producing great quantities of carbon at cheap cost and excellent quality that the product goes out to all parts of the country, three-fourths of it being shipped to New York city.

In regard to the incandescent system which the company is now manufacturing exclusively for all purposes of a central station plant for street and in-door illumination, as well as for out-door purposes, it must be stated that it is entirely his original invention, in direct opposition to the methods that were employed before. The difference can be stated in these words, that while all the other systems are dependent on mains and submains for conducting the current to the lights, the Heisler lamps are all connected on one single wire in series. It is at the present time the only successive long distance system. The character and high business standing of the patrons of this system indicate that it is destined to assume vast proportions as a general illuminator.

The *Mail and Express* tells the following story on a well-known telegraph man: "A pleasant-faced, rather stout man stood at the corner of Fulton street and Broadway recently looking steadily up at the net-work of wires overhead. Their bewildering webs seemed to fascinate him. Although dressed very nicely his appearance was not quite that of a native of New York. His color, too, seemed too fresh and healthy for a metropolitan worker. When he had stood looking upward for about ten minutes one of those rather previous young New Yorkers who are always ready to accost a stranger walked up, and evidently taking him for a countryman, began to explain the uses of the wires and the general contention existing in relation thereto. The young man was well informed, and talked glibly about Mayor Grant, the Subway Commissioners, and most freely about Jay Gould. The bright, blue eyes of the elder man began to take on a wearied air, but he listened patiently, just a suspicion of a smile lurking around the corners of his mouth. Finally the fresh young man was talked out, and, nodding to the stranger, walked away. Then the man, that had been taken for a countryman gazing at metropolitan wonders, resumed his examination of the wires. He was Mr. W. C. Humstone, the genial superintendent of the Western Union Telegraph Company.

Mr. Barrington L. Brannan, of the W. U. force, ought to feel proud of the compliment bestowed upon his ability as an author of song by the *New York World*, which in its Centennial number produced one of his efforts, entitled, "We're Going to Move in May." The song was respectfully dedicated to a furniture wagon.

Julien storage batteries were used successfully in running machinery on the floats during the Centennial civic parade.

A FEW BREVITIES.

"DE."

Lady Visitor: And that is a quadruplex, is it?

Doorkeeper: Yis, mom.

Lady Visitor: What do you call those men who work a quadruplex?

Doorkeeper: Quadrupeds, mom. Com' an.

A barber on Sixth avenue complains that his business is ruined by having the wires put underground. There isn't a dirty pole on the avenue to be shampooed.

First check boy, reading from a dime novel in coat room: "De sun wus shinin' brightly on de tall prairie grass, and de cuyote wus playin' wid his mate, Carvin' Knife Bill wus loadin' his Winchester. De white maiden wus combin' her long wavy hair in de tent, when suddintly dere wus a shrill war whoop hurd in de distance, and—"

Second check boy: Cheese it, here comes Moody.

The *North American Review* says: "In one hundred years from now the Morse operator of to day will be looked upon as a great curiosity."

That's a cheerful outlook for the future old timer.

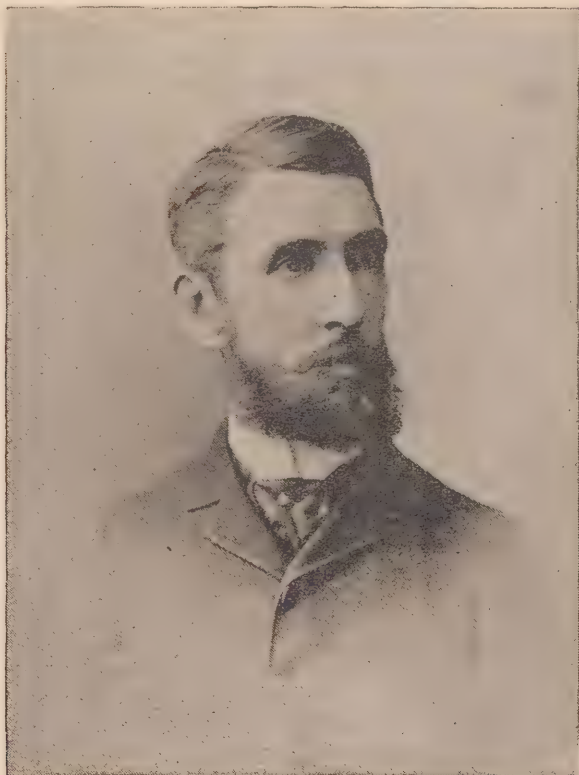
BROOKLYN ELECTRIC CLUB.—On Friday evening, May 5th, the Electric Club of Brooklyn held an open meeting and informal reception at their rooms in the Johnson building, Flatbush avenue and Nevins street. After the regular business had been transacted, the following musical and literary programme was rendered: Recitation by Mr. C. J. Doyle; piano duet by the Misses Luptons; song by Miss Annie O'Brien; banjo solo, Mr. Fred Skirrow; piano solo, Miss Mamie Connolly; song, by club quartette, Messrs. Doyle, Fischer, Martin, and Skirrow; humorous remarks by Mr. H. E. Dobson; piano and vocal duet by the Misses O'Brien; song by Miss Lizzie Lupton; song (by request), Miss Annie O'Brien. There were numerous encores, which were responded to willingly; and at the conclusion of the entertainment every one expressed his or her enjoyment of the varied programme. In a short address, Mr. W. H. Pearson explained the object of the organization, which is to promote sociability among those of the fraternity residing in Brooklyn, to cultivate the literary tastes, to hold debates, and generally to arrange for each meeting literary and musical exercises that will prove instructive and interesting to members. The club rooms were handsomely decorated for the occasion. The membership of the Electric Club, which was organized three months ago, has increased so rapidly that its success is now assured. Among the guests present were Miss Sadie McElhaney, Mr. Rogers, Mr. A. J. Harvey and Miss Harvey, H. J. Lockner and lady, J. J. Hughes, Miss Julie Henry, Miss Mamie Quinn, J. H. Holbrook and Miss Holbrook, J. J. Shaughnessy and Miss Hillgrove, W. H. Brahe and Miss O'Brien, M. J. Phelan and Miss Mary Lupton, Mr. H. E. Dobson and sister, R. F. Doyle and Miss Connolly, John H. Breen and Miss Eustice, E. G. Martin and Miss Ganz, Mr. John Dempsey, Mr. George Weiderman, and Mr. F. G. Payne. The officers of the club are W. H. Pearson, president; H. E. Dobson, vice-president; George Fischer, recording secretary; Robert Doyle, corresponding secretary; and M. J. Phelan, treasurer.

A new invention to prevent collisions at sea, consisting of a small plate fixed at the side of the vessel has been very successfully tried on the Thames. Electricity is the active agent. The approach of another vessel within two miles causes a bell to sound, and an indicating arrow shows the direction whence it comes.

A spider was removed from the ear of Mrs. George H. Brown, wife of the manager of the Postal Telegraph Company, in Wilmington recently.

ORIN WADDELL.

Orin Waddell, manager of the Cincinnati bureau of The United Press, was born in Chillicothe, Ohio, August 23, 1844. He learned the telegraphic business while attending school at Greenfield, O., and was an operator at the



ORIN WADDELL.

Frankfort station of the old Marietta and Cincinnati Railroad (now the Cincinnati, Washington and Baltimore R. R.) when Fort Sumter was fired upon. Later he was appointed assistant to Superintendent C. S. Rogers, of the Little Miami Telegraph Company. Soon after Mr. Waddell resigned this position and we find him in the military telegraph service under Captain W. G. Fuller, who was then stationed near Memphis, Tenn. His two companions who were ordered to the same depot deserted and returned to their homes. Mr. Waddell was then ordered to Camp Dennison, near Cincinnati, where he remained several months; from there he was sent to a camp established on the Ohio River when Kirby Smith was trying to force his way into the state. Near the close of the war he entered the service of the Western Union in Cincinnati and was transferred to St. Louis, Columbus, New York, Boston, Lake City, Florida, and again to Cincinnati. He was then offered and accepted a position as operator with the Columbus, Hocking Valley and Toledo Railroad in 1879, which he held for a year, but the duties affecting his health, he resigned and returned to Cincinnati. He again entered the Western Union service and remained there until 1883, when he secured a position with The United Press, of which he was appointed local manager on February 1, 1884.

POSTAL NOTES.—Departures—J. F. Murphy, R. A. Lynch, Chas. McClellan, G. Kemp, E. O. Grady, W. W. Wilson, J. H. McEntee, J. P. Walls, John Kane, R. V. Boyle and W. L. Kennedy have been added to the waiting list. J. M. Gibbons, A. Dalton, E. H. Hobart, Wm. Carroll, A. E. Hughes, E. J. McCabe, E. H. Curlette, have been appointed on the regular force.

CHICAGO TELEGRAPHERS' AID SOCIETY.—The following report for the first quarter, May 4, of the society is submitted:

Number of members enrolled.....	85
Withdrawn to leave the city.....	2
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Present membership.....	83
Receipts—Initiation.....	\$85 00
Dues.....	114 00
<hr/>	
Total.....	\$199 00
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Disbursements—Printing and Stationery...	\$23 00
Sick benefits.....	30 00
Cash on deposit.....	105 00
“ hand.....	41 00
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Total.....	\$199 00

Although but three months old the society has suffered fifty days of sickness, at a cost of \$30. This proves the necessity of the society and should cause its membership to boom. It is suggested to raise the sick benefit from \$5 to \$7, or even \$8 per week. W. E. Griffiths, Charles Potter and Con. Sullivan, the Auditing Committee, have examined the above reports and find them correct.

THOMAS C. ASHCROFT.

Thomas C. Ashcroft was born in Verona, Miss., in 1865. He began the study of telegraphy in a small village in Kentucky, in 1878, and from there he secured a position on the Mobile & Ohio Railroad, where he spent the first years of his telegraphic career.

In 1881 Mr. Ashcroft entered the Western Union service, having accepted a position on the Meridian, Miss., force.



THOMAS C. ASHCROFT.

Since that time he has worked in several of the principal southern and western cities. He is now with the Associated Press, New York.

Mr. Ashcroft has taken part in several entertainments and is well known in Southern amateur theatrical circles, where he has won for himself much praise and popularity

SYRACUSE NOTES.—The first of May brings several changes in the *personnel* of the W. U. office. Mr. D. M. Bowers, our popular traffic chief, who has served over nineteen years in this office, retires from the service to enter another field of labor. A more thorough gentleman, or a more conscientious man in the discharge of his duties would be hard to find. Mr. Bowers leaves an army of friends who wish him unlimited success in his new undertaking. Upon his retirement Mr. Bowers was presented with an elegant gold-headed cane by the linemen, and a large easy rocking chair by the operators. E. T. Pardee has been appointed "wire chief," *vice* D. M. Bowers "traffic chief." W. R. Jillson has left us to accept a position on the night force at 195 Broadway, N.Y. Check clerk Robert Young has been promoted to operator. Miss Anna Wheatley has resigned, we understand, to be married in the near future. J. D. Daggett and F. H. Barton are recent arrivals. Timothy Flood, an old and popular lineman, recently fell from a pole, a distance of thirty feet, fracturing his spine. He lies in a precarious condition, and, should he recover, will probably be a cripple for life. He has a wife and several children.

UNITED PRESS NOTES.—Fred N. Bassett, for the past two years assistant to General Manager Phillips, has been appointed General Eastern Manager of The United Press, with headquarters at New York. Claude E. Potter, for some time past one of General Southern Manager DeGraw's assistants at Washington, has been placed in charge of the company's affairs at St. Louis, *vice* Mortimer D. Shaw, who has been relieved of managerial responsibilities at his own request, but who continues in the service as one of Mr. Potter's assistants. Robert L. De Akers, for some years past connected with the Departments in Washington, and, under the Cleveland administration, private secretary to Edward Rosecrans, Register of the Treasury, has been appointed stenographer to General Manager Phillips. H. H. Fry, United Press operator at York, Pa., has been added to General Southern Manager DeGraw's staff. George E. Reilly, United Press operator at Harrisburg, has been transferred to Washington, Pa. F. S. Stewart, United Press operator at Lancaster, has been transferred to Auburn, N. Y., *vice* John Mitchell, transferred to Newburgh. Charles L. Hayes, late of the *Inter-Ocean*, has been appointed to a position as operator with The United Press at Chicago. F. R. Kaspar, late of Newburgh, succeeds George B. Dresser at Buffalo, Mr. Dresser having resigned to engage in other business at Minneapolis, Minn.

KANSAS CITY NOTES.—The arrivals since last published are Mr. Scott from Salina, and Mr. Miller from St. Joseph. The last number of the *AGE* was eagerly sought after by all. If you haven't put your name on Cutler's subscription list for the *AGE*, do so at once? Let the good work go on. The great "Oklahoma" rush, all of which passed through this office, was handled in such a manner as to reflect credit upon both the day and night chiefs. On Monday night, the 22d, one hundred and twenty-eight thousand words of specials were handled. Miss Kitty Marr is still on the sick list. The matrimonial fever is still raging in this office. Mr. David Sievewright, a prominent young merchant, was united in marriage, the 17th of April, to Miss Annie McCain of the Wheatstone force. On the same day, Mr. W. D. Ward, a telegraph operator, was also united in the holy bonds to Miss Nettie Eisfelder of the day force. Mr. Harry Moreland and Miss Marie Jacques of the Pacific Mutual were married the 8th. During the coming month it is estimated that at least five more marriages will take place.

CANADIAN PACIFIC NOTES.—Transfers on Western division are: C. Kent Tyndall, promoted to agency at Rennie; C. Eggett, Montreal to Tache; J. W. Ferree, Columbus, Ohio, to Buda. A post-office has been opened at Brule, with J. N. Davidson, the operator, as postmaster.

BOSTON NOTES.—Arrivals: H. L. Kellen from the South, and Mr. Daniel M. Keating from the Postal, city; also in city line department, Miss Willard from Ayer Junction, Mass. Departures: Joe Walsh to Postal, city, and James L. McLaughlin to broker's office, city. Mr. C. F. Wood, formerly assistant general superintendent for this district, who was succeeded by Mr. Thos. Roche some years ago, is working in cashier Wentworth's department. Mrs. Culinz, of the Cape Cod wire, is confined to her residence by severe illness. The members of the W. U. baseball team, and their positions, are as follows: Nason, 2B; J. C. O'Leary, SS; Flynn, 3B; Devine, LF; Shirley, P and RF; Austin, 1B; M. C. Harrington, CF; Knowlton, RF and P; W. J. Clark, C; A. F. Booth and C. W. Rice, substitutes. Mr. S. F. Shirley is captain, and not Mr. Devine, as previously stated. The nine was photographed in a group recently by Mr. G. B. Kirkpatrick of the night force, who is establishing for himself quite a reputation as an amateur photographer. Many of our desk diaries contain some very amusing poems, sayings, etc., and an idle operator need not lack amusement to enliven his dull moments. The following specimens are from the signal wire book: "Sunday night musings: 'Fine day; wire OK; to-morrow pay day.'" Another in two verses, not so concise: "While I sit on the signal wire, with my head as heavy as lead, sometimes I wish I never was born, sometimes that I were dead." In the second verse, the writer goes on to explain, in language more plain than elegant, how some one hit him in the eye with an orange peel, which was the cause of his horrid feelings. The author of the foregoing is conceded to be to 109 what Mr. Ed. Delaney is to 195; in other words, the "brevity man" of Boston office. The Gold and Stock office has been removed from its old quarters, 56 State street, to 35 Congress street, where dynamos have replaced the batteries. All the Mutual Union offices were made Western Union branches May 1st. The operators were retained, and the service will continue as formerly.

HARRISBURG NOTES.—The Postal Company moved into their new and excellent office on the 1st inst. It is very nicely fitted up with all conveniences, and meets the approbation of everybody. Their old quarters were more than cramped, but the new room is large and commodious, with plenty of light. Telegraph offices are not generally the object of serenades, but the Postal were so honored soon after being settled in their new office by the Commonwealth band of this city. Miss A. L. Diehl resigned March 11th, and is now with the Pennsylvania railroad at Sunbury, Pa. She is the first lady operator ever employed there. Mr. W. G. Harrison has returned to Philadelphia. The present force consists of C. E. Diehl, manager; J. H. Gingrich, with split trick men, days; A. B. Moyer attends to the interests of the company at the State Capitol. At night there are C. C. Dreher, chief; Charles Gingrich, and H. S. Wall. Western Union.—There have been many departures and arrivals here since last heard from, but I will confine myself to the present force. E. A. Teupser is manager; E. C. Mumma, wire chief; O. E. Balmer and S. B. Kauffman, days; G. H. Day and W. G. Hassler, split trick; G. Catherman, night chief. Mr. George E. Reilly, who manipulated the machine on the United Press wire at a newspaper office, left for Washington, Pa., where he will take the same report. The telegraph fraternity regrets to see Mr. Reilly leave, and all unite in best wishes for his welfare. Mr. J. H. Gingrich, who was the first manager of the ill-fated B. and O. here, and who resigned that position to accept the superintendency of the East Harrisburg Passenger Railway, an electric motor line, has just recovered from a serious illness, on account of which he resigned the latter position, and his appearance is met by everyone with hearty congratulations. The Press handled this legislative session is not as large as during the previous one, but still there is lots of it.

WICHITA NOTES.—On April 22d the largest and most complete, to say nothing of being the most intricate, lot of circuits ever put up in the State of Kansas were arranged at Wichita W. U. office on the occasion of the filing of 50,000 words of "Oklahoma" press news. A special press representatives' train was run from Guthrie, Oklahoma Territory, to Wichita, containing twenty-seven newspaper men with their correspondence for the Eastern papers. The train made no stops between Guthrie and Wichita, and when it reached Wichita it was discovered that the rival reporters had adopted all manner of means to get their respective "copy" to the telegraph office first, that it might have the preference in being sent out. Some two or three of them had race horses, ridden by expert jockeys, in waiting at the depot, and before the train had fairly stopped the daring reporters sprang from it, and, rushing up to the riders, handed them an envelope containing their manuscript, and the word, "Go," was given, when the horses dashed off on a dead run for the telegraph office. Others had secured fast cabs; and yet others, not to be outdone, had secured light buggies and fixed alarm gongs on the front, that could be operated from the seat by their feet, in order to warn the street passengers at crossings to look out for their mad flight, and as quickly as possible they jumped into them and started. The scene on the route to the office was indescribable. First came a large white horse ridden by the correspondent of the *New York World*, closely followed by another ridden by the correspondent of the *Herald*; then came the buggies, with their gongs clanging as they swayed from side to side in their mad career. They were followed by the slower cabs on the dead run. The police in vain tried to stop the headlong flight. So cunningly was it planned that a casual observer standing at the depot five minutes before the arrival of the train would have noticed nothing uncommon. At the office each man had a boy posted who would catch his horse as he dashed up. When the cavalcade reached the space in front of the office a great shout went up from the people on the streets, the various correspondents threw themselves from their horses and buggies and made a rush for the door, which had been left open for the purpose, and all tried to hand their copy to the receiving clerk at the same time. The *World* correspondent (who, by the way, is red-headed and rode a white horse) was the first to file his stuff. At the operating room chief operator B. C. Elder was in charge, with the assistance of night chief operator E. S. Bowers. A new quad had been run to Arkansas City, and was looped on all four corners to the regular Wichita-Kansas City circuits. The men were placed at a table each, and were all ready, the Kansas City operators being in waiting, and when the specials were filed they were quickly distributed, and three minutes after the train pulled in at the depot the matter was being transmitted as rapidly as fifteen first-class operators could handle it. It was filed at 10:45 P. M., and at 12:30 A. M. the last words had been sent. Manager Hackett was in attendance at the counter, and distributed the "copy"; Night Chief Bowers kept business moving, while Chief Operator Elder looked after the wires. Strange to say, not one of the fifteen circuits went down during the spurt, and all worked fine. Kansas City handled the same night one hundred thousand words of press matter from the various Kansas points.

BIRMINGHAM, ALA., NOTES.—Mr. E. E. Williams is manager, with W. B. Scattergood wire chief, and operators Sutphin, Johnson, and Wright on days, Lindsey and Tradewell on split tricks. Mr. J. C. Bishop is our good-natured night chief, with Allison on report. Clerks: days, Mr. Walter Forsyth, bookkeeper; Mr. Jordan, receiving clerk; Mr. Manlove, delivery clerk; Mrs. E. E. Barnes handles the telephone and files the business; and Master McKelduff is check boy. Mr. Lee is night receiving and delivery clerk. The "Two Watsons" are our linemen. Arrivals:

H. C. Allison from Memphis, Tenn.; G. E. Lindsay, New Orleans; Mr. Tradewell, from L. & N.; and W. B. Wright, Augusta, Ga. Departures: Mr. Richardson, Chicago; Mr. Otto, Mobile. Mr. Lindsay leaves in a few days for St. Louis. Mr. Allison is off on a few days' vacation. Mr. Stalling is subbing during his absence. At Power's pool room we find Mr. Shields, J. B. Hunter, and George Fisher, all from Memphis. At Burnet's, Mr. Sutphin. At the Jockey Club, J. C. Bishop and Mr. John Payne, formerly with Associated Press, Nashville. And last, but not least, is Mr. Wimpey, with Sharp & Co. At McCulla's, broker, we find Charles King.

PORTLAND, ORE., NOTES.—Owing to the rapid increase in business, three quads have been put in to take the place of duplexes. Five operators have also been added to the regular force. The receipts each month show a large increase over those for the corresponding months of the preceding year. The office is now completely filled with tables, and Manager Hayes has had to move his desk to make room for the new desks. Larger quarters are badly needed. F. M. Overbeck, formerly night chief, has been transferred to Seattle, Wash., as manager. Before Mr. Overbeck's departure he was presented with an elegant gold-headed cane. Among the railroad and commercial operators here a baseball club has been organized. The club expects to wipe out everything in the amateur line. The personnel of the W. U. force is as follows: J. W. Hayes, manager; G. H. Thomas, chief operator; E. A. Brown, traffic chief; C. A. Cook, night chief; F. Loomis, all night chief; operating force: P. Thomas, B. F. Cummings, A. W. Mott, O. E. Hammond, F. C. Routledge, C. G. House, C. E. Norton; split trick: G. McMahon, W. W. Scott, F. C. Miller, J. Urquhart, J. W. Laughlin, J. Annand, F. C. Parrish, H. G. Miller. Nights: T. J. Gallagher, John Ufford, S. W. Wingate, S. J. Small; Charles Drake, bookkeeper; W. A. McGovern, day receiver; Miss M. Drewery, delivery clerk; W. W. Brackett, night receiver; R. L. Brackett, assistant bookkeeper; J. Collins, day check; G. Carr, night check. Postal Company: J. Stronach, manager; H. Martin, chief operator; W. F. George, night chief; W. Legrande, J. M. Spencer, W. Hearn, operators; E. Mallory, receiver; A. Legrande, check.

HUTCHINSON, KANS., NOTES.—Hutchinson is represented in the profession as follows: Western Union: E. S. Child, manager; operators, C. R. Summers, Harry Blatz, C. W. Marshall, John Paley, and J. B. Evarest; J. C. Gilhousen, night report. Missouri Pacific: Philip J. Leimbach, an old-timer, formerly of New York, agent; Frank Chain, operator. Rock Island: O. P. Byers, agent; J. O. Kidwell, operator. Santa Fe, C. K. and W. R. R.: Warren McKee, days; C. M. Hart, nights. Departure: F. W. Farley to the Pacific Mutual, Omaha, being relieved by Mr. Summers at the W. U. Business is very brisk, which has been brought around by the opening of Oklahoma.

TORONTO C. P. R. NOTES.—The City Solicitor has notified the Bell Telephone Company to remove all poles and wires erected on the streets in contravention of city by-laws. The Toronto Council have practically decided to adopt an arc electric light system, in preference to an incandescent one, and the fight for the contract will be between the "Ball" and "Western" companies.

JACKSONVILLE NOTES.—The departures are Messrs. Lewis and Morse and Miss Macey for New York; Mr. Ansley for broker's office of Boston, and Mr. Stroud for Atlanta. This is the result of a reduction of force. J. P. Duval arrived from Punta Rassa, and has been subbing for Messrs. Sweeney and W. J. Wallace. The former has just returned from a trip to Cuba, and is full of "mongrel" Spanish, while the latter is on a trip to Charleston.

CHEYENNE, WYO., NOTES.—In the Union Pacific relay office we find J. R. Walker, manager. He has been in Chey-

enne several years working at the key in the same office in which he now holds his present position. Our St. Louis and Little Rock old-timers will remember him. Mr. Walker is a deserving gentleman, and we wish him success. The operators are Charles M. Chandler, H. A. Habel, and J. E. Smith, days. Mr. Chandler has been in Cheyenne two years, and until a few months since has been with the Western Union here. Mr. Habel has made his second appearance here, relieving Mr. Sam Rutledge, who is now assistant train master. Mr. Rutledge is well known in the East, and has the best wishes of all the boys. Mr. P. O'Hern is on the split trick, relieving Ed. Collier, who has gone to Kansas City. Mr. M. C. Newkirk, formerly dispatcher at Cheyenne and Laramie, is on the night trick here. The personnel of the W. U. is as follows: M. J. Nichols, manager; Ed. Farrar, night chief; Miss E. McCrum, clerk; Chas. Erswell, all night chief; Louis Casper, Wheatstone repeater; operators, Mrs. F. M. Merrifield, Thos. Glascoe, and J. R. T. Austin. Mr. and Mrs. Austin leave for California in a few days, where they will spend the next two months. Mr. Austin is relieved by a Mr. Russell from New York. With Jack Austin are Messrs. Glascoe and Erswell, who constitute the "star" typewriter operators in the city. G. W. Jones left for California. Ex-manager Merrifield of W. U. is doing prosperously on a ranch.

WESTERN UNION NOTES.—The following message was a few days ago received by Mr. Brennan: "Am at Fort Hamilton; have walked all the way; am sick. Please excuse me to-day." It was from an operator whose name is known to most everybody in the office. He knew his message had reached the one to whom it was addressed when he received this succinct and laconic reply: "How far would you have walked had you been well?" Miss Merner has been transferred to No. 9 New street. Mrs. Frank Ames has for some time past, we most sincerely regret, been compelled to absent herself on account of the serious illness of her husband. It is hoped he will soon be in such an improved condition as to admit of her presence here where, as at home, her services are highly appreciated and her absence greatly regretted. What is your opinion of an experienced cable man who put it down "plut" for 60/- One day, during the Centennial celebration, Misses Fullgraff and Patterson exchanged on "B" Brooklyn wire 600 messages. The men in Fulton and Washington markets frequently testify their appreciation of prompt and efficient telegraph service by remembering Paul Sheehan, wire chief on the 1 to 8 a. m. force, with a palatable dish for the table. Slow as he may appear in the eyes of some, that he gets there with both feet, and on time at that, is an undeniable fact. Mrs. Fones, who for some months past has been working a Harlem wire, has been assigned to the Washington Market wire, one of the busiest in the City Line. Messrs. O'Driscoll, Tracy, Dr. Lindsay and G. E. Shryver have been added to the waiting list. As a precautionary measure a lady operator, in whose family there was a case of scarlet fever, was sent home. Lee R. Townsend, of the St. Louis main office, and two friends, Messrs. Cramer and Collitt of Company F, First Regt. National Guard, State of Missouri, visited the office on the 29th ultimo, and were escorted through by Dr. Palmer and Chief Eastman. Miss Flossie Peabody, one of the greatest favorites and most deservedly popular ladies in the Wheatstone department, has resigned for the purpose, it is said, of being married to one of the most distinguished operators on the night force. If this report be true we congratulate him. Prominent among the visitors here during Centennial week was a rather tall, neatly dressed, handsome looking gentleman, whose hair and beard were snow white. He had been in the office but a few minutes when he was recognized by some of the old-timers as Mr. William E. Dulin, who worked

at 145 Broadway when A. S. Brown, now superintendent, was manager. Mr. Dulin holds a responsible position in the Pension Office at Washington, where he has been for the past eighteen years. Among the old friends he met Doc Shain, whom he last saw while passing the office at Weldon, N. C., of which he was manager twenty-seven years ago, on his way to take part in the battle of Manassas. Miss Mamie Waterson, an operator in the Postal office, whose death occurred so suddenly and wholly unexpectedly a few days ago, was a check girl here for a long time and leaves a host of friends who mourn her untimely demise. A new self-winding clock has been put up on the wall in the Receiving Department. "Eva, your sister Carrie is dead. Come to be buried at eight o'clock Tuesday morning," is the way a message that passed through the City Line a few days ago read. Close relationship probably existed between the sender of the above and the one which follows: "The man your brother was engaged to wash is dead and can't come." Charles McCutcheon, M. H. Collins, C. R. Clampett, J. M. Winder, Lou Bartholomew, E. J. Hamilton and F. L. Cornish, have been transferred from the waiting list to the split trick. On May 7th Mr. Thomas Kennedy, Eastern Wire Chief, celebrated his seventeenth anniversary at the switch by working the same as on any ordinary occasion, and receiving the congratulations of his many friends. A wag at Topeka sent the following message on the night of the Centennial banquet and reception: "To Geo. Washington, in care of McAllister's 400, New York: Can you dance the Lanciers?" It was signed "A Democrat" The following named ladies have been assigned to the 10 to 7:30 trick: Nellie Reeves, Jennie Fitch, May Finley, Lizzie McMahan, Rosie Uth, Annie Miller, Irene McNally, Fannie Morris, Kittie Boyle and Nellie Alberts. The gentlemen recently assigned to duty in the Race Bureau are: Messrs. Wedin, Buxton, Stewart, Tomkins, Williamson, O'Leary, Bergen and Baldrick. Mr. Jillson, a recent arrival from Syracuse, has been assigned to the regular night force. Considerable excitement was created a few nights since by the short circuiting of a number of wires, which resulted in igniting a section of the switch in the City Line. The fire was quickly extinguished, however, with but slight damage. There may or may not be considerable significance attached to the following message from a clergyman at Middletown, N. Y., to a brother pastor in an adjoining town: "Kindly fill my pulpit next Sunday. Trout fishing is excellent." The Telegraph formed an important feature in the management of the great Military and Civic Parades in this city on April 30th and May 1st respectively. The Telegraph Corps consisted of the following well-known Western Union operators:

Mr. Conrad A. Meyer, Chief in Charge, 57th street and 5th avenue.

- C. E. Bridgeman, 40th street and 5th avenue.
- A. C. Robbins, Reviewing Stand, Madison square.
- S. G. Calhoun, 20th street and 5th avenue.
- A. Nace, University and Waverly place.
- G. Schwind, 599 Broadway.
- A. Miller, City Hall Stand.

R. T. Sullivan, 111 Broadway Stand, with Walter Wright as relief operator. With these facilities for communication between chiefs of divisions all confusion and blocking was avoided, and the enormous processions moved from beginning to end of the route without a moment's delay. Through oversight or accident, no officer was left at the 57th street station on Wednesday morning, and upon Mr. Meyer devolved the responsibility of "filling in" the column until an officer arrived from the Reviewing Stand. By his level-headed and prompt action a serious hitch in the programme was averted. Suffering as he was at the time from a severe attack of rheumatism, Mr. Meyer is deserving of unlimited praise for the able manner in

which he handled the business entrusted to his department. Speaking of the Eastern division and its fifty-one operators the other day, Chief Fred. Catlin, said: "The circuits in this division are in such good condition, and the force handles the business so well, that there is really little or nothing for a traffic chief to do." This is a very neat compliment to the force, and speaks well for Mr. Catlin's skill and energy, to which such a state of affairs is undoubtedly due.

CHICAGO, W. U., NOTES.—Mr. Baldwin Griffiths, who for the past year has been sending press on the combination circuit at night, has gone to New York to labor at 195. He has our best wishes. His place is taken by Mr. George Hammond, who as a swift sender has few equals. This "combination" is the invention of Mr. J. C. Barclay, and enables one man to send the N. W. report on five wires to eighteen points West and Northwest. The Chicago Telegraphers' Aid Society, which was organized in February, is progressing favorably. The boys recognize it as a good thing, and appreciate its benefits. Norman Perrin is president; Henry Jahn, vice-president; Wm. Wallace, secretary; and Jos. Laird, treasurer. The membership is now 83. Roger Pearson, for years chief of the Western ways at night, died April 19th, of pneumonia, after a sickness of only a week. He is mourned by all. Business seems to be dull. There are any number of good men waiting to go to work, some of whom have been here a month. No new men are being taken on, and Chicago at present is a good place to keep away from. Ten new automatic clocks have been placed in the operating room, and are a great improvement over the old affairs. Electric light wires for the room are being arranged, and will be in working order soon. Among the recent arrivals are Messrs. Danforth, St. Louis; Appleman, St. Joseph; Young, El Paso; Smith, Deming; Champlain, Fargo; Hayes, Pennsylvania; Moore and Heritage, New York. Mr. Thomas Curry, of Omaha, is a recent addition to the night force. Mr. Shunk has gone to Helena. Harry Burton is filling the place vacated by Roger Pearson. He is well liked, and has the best wishes of the force. Harry Knight, chief of the New York division, is on a vacation, Mr. Kane taking his place. Lew Marston is assisting Chief Jahns at "Ex." Among the heavy wires on the Board are "Ix," New York, worked by Messrs. Wyman and Fleming; "Ox," by Messrs. Dixon and Cameron; "Broad street," by Messrs. Doner and Sherwood. Messrs. Morrow, Fahey, McLean, and Young grace the "Mx," St. Louis wires; Bird and Godman, St. Paul; O'Donnell and Ryan, Buffalo; and Stratton and Maddock, Minneapolis. Mr. A. M. McGann is chief of delivery. One of the busiest spots in the main office is the race and baseball department. In it we find Mr. J. D. Walker, M. D. Murphy, Messrs Perrin, Swayne, Rinear, Healy and Carpenter. Loops have been run into the *Herald* office, where Mr. F. S. Kent is in charge, assisted by Messrs. Githens and Boyle. This office is one of the hottest, telegraphically, in Chicago, 20,000 words frequently being handled by the three men in six hours. The *Herald* recently published an excellent portrait of Mr. Kent in a description of their office. At the *Times* office, Mr. J. H. Curtis is in charge, assisted by Mr. Springer, Will Perrin, and Mr. Cogan. This office, like the *Herald*, handles an enormous lot of special, nightly. Mrs. Beale, who has been in Colorado for the past four months, is again at her wire in "Ch." Among the ladies who work heavy wires we might mention Mrs. Bracken, Lafayette; Miss Ritcher, Wabash, way; Mrs. Tillotson, Toledo; Mrs. Miles, Baltimore; Miss Sperry, Springfield; Miss Laing, Quincy; Miss Small, Michigan Central, way; Miss Kronawiter, Marshalltown; Mrs. Brown, C. B. & Q., way; the Misses Summerl, Pittsburg and Philadelphia; Miss Thompson, Grand Rapids; Miss Logan, Northern, way; Mrs. Ever-

ham, Omaha and Sioux City press circuit; Miss Root Dubuque, way; and Mrs. Paddock, Burlington, duplex. The work of these ladies reflects great credit upon themselves and Messrs. Childs and Stevens, of whose divisions they comprise the greater part. About the handsomest and neatest telegraph office in Chicago is "Gb," in the Union depot. L. J. Mundt is manager; with F. M. Saunders, T. H. Diffenderfer, and W. Dehaven operators. This office has twenty wires of different roads entering into a beautiful glass-enclosed switchboard. All the instruments and tables are new, and everything is elegantly fitted up. Jerry Book has changed from days to the split trick. Messrs. Crawford, Dalton, Delavan, Davis, and Miss Thompson have been on the sick list, but are again at their desks. Ft Hens, N. Y., is what a Wheatstone young lady copied for Athens, N. Y. Mr. John J. O'Brien, recently from Milwaukee, is assisting at the switchboard.

NEW YORK TELEGRAPH CLUB NOTES.—Fifteen new members were elected at the last meeting of the Governing Committee. The club rooms which have been undergoing extensive alterations and repairs will, it is expected, be thrown open for inspection on or about the 21st. Much sympathy is expressed for Mr. Mills C. Sink, one of the Charter members, whose wife died quite suddenly a couple of weeks ago. The floral offerings sent by the Club were magnificent. The base-ball team is composed of the following well-known members of the Club: Messrs. Barrett, Melvin, McCrum, Nolan, Phillippi, Stevens, Whalen, Young and Smith. The membership, which is rapidly increasing, now numbers 160, with fair prospects of 200 before June 1st. Ed. Morrison, secretary of the Governing Committee, has become a Benedict, having been married on the 4th inst. to Miss Peabody of the W. U. main office. The happy couple have the best wishes of the entire Club.

DALLAS NOTES.—Business is quite dull in this section, except during the Oklahoma boom, when it was very heavy, relaying a great deal of special matter. Very few changes are being made here. The latest arrivals are: W. S. Powell, F. C. Barr, and Miss Carrie Houghwout. Since the opening of the baseball season the boys have taken the craze, and pay their subs from fifty cents to a dollar an hour. The W. U. force organized a club of very good material, and expect to play the T. & P. railroad boys soon. Our genial night chief, W. P. Davis, and Miss Irene Houghwout, both of the W. U., were married on the 2d ult., at the residence of the bride's father, Fort Scott, Kansas. The force extend their heartiest congratulations to the happy pair.

TRANSFERS.—Chas. A. Gerber, Dunellen, N. J., to Mauch Chunk, Pa.; J. B. Douglass, Drummondville, Ont., to Jackson, Mich.; V. G. Hudgins, North Danville to Eagle Rock, Va.; Frank C. Miller, San Francisco to Portland, Ore.; F. H. Dodge, Proctor, Vt., to West Peabody, Mass.; J. H. Shum, Cleveland to Lima, Ohio; R. J. Curran, Huntington, Ont., to Butte, Mont.; W. P. Boone, Franceville, Junct., to Graneros, Colo., for the D. & R. G. Ry.; B. M. Brown, Nashville, Tenn., to Albion, Mich.; F. P. Howard, Sacramento to San Francisco, Cal.; F. H. Dodge, Proctor, Vt., to Windham Depot, N. H., as station agent for the B. & M. Ry.; M. H. Simpson, Fort William, Ont., to Indian Head, N. W. T.; Geo. A. Sinclair, Burlington, Ioa, to Montreal, for the G. N. W.

The Electric Age Publishing Co. will shortly issue the second edition of Terry and Finn's "Description of Telegraph Apparatus," with an entirely new chapter of interesting matter.

A pneumatic tube is being laid between the Western Union office in Fifth Ave. Hotel and the 23d st. and Fifth ave. office, to accommodate the increasing business at the hotel.

NOT ROOM FOR THREE COMPANIES.

An ex-superintendent of telegraph of one of the defunct companies, perhaps noting the fact that in our last issue we announced an agreement of rates between the existing telegraph companies, requests that we canvass the field and let him know what are the prospects of a new company being organized. We give our readers the benefit of our reply as to the advisability of a third company being organized.

In the first place, there is not sufficient business in the United States to warrant three companies maintaining plants, and for a third company to organize now would be but a renewal of hostilities, a resumption of cutting rates, and a general demoralization of the service. A third company would also mean the creation of hundreds of new, and the scaling down of salaries of the old operators. New telegraph companies have never benefitted the employes so far as permanently raising their salaries is concerned.

A new company starting at the present time would be compelled to reduce the tariff in order to secure public patronage. The older companies would have to follow the example; and instead of the two companies receiving a reasonable tariff for good service, the three concerns would sink millions of dollars fighting among themselves for a profitless business, rendering an indifferent service to the business community. The representatives of the two existing companies are quite liberally inclined to giving the public the benefit of the lowest possible rates without injuring the quality of the service, and they are too sensible to do otherwise than to agree among themselves to maintain these reasonable rates. They have declared that hereafter merit between the two companies will be the basis of competition. This is all the public may reasonably expect in view of the fact that telegraph rates are now within the reach of all. A new company would necessitate a reduction of rates to distances of 500 miles to less than twenty five cents in order to secure business. The maintenance of wires at the present day and the volume of business handled would not yield a profit on rates lower than twenty-five cents for ten words. A third company would, therefore, in the end come to grief, and sell out at a sacrifice to anyone willing to make a purchase; and usually the purchasers are the same people who, when a consolidation takes effect, find it an extremely difficult task to restore the rates to a paying standard. It is easy enough to lower rates, but very difficult to raise them.

President Chandler, of the Postal, did a wise thing when he agreed with President Green, of the Western Union, that the rates could be best lowered by increasing the efficiency of the service, and thus at the same time allow the fraternity to enjoy what little there is left of their already low salaries. The cutting of salaries began with the cutting of rates. To deprive a company of its revenue is to deprive the employes of what is their due in the shape of salaries. The *ELECTRIC AGE* fails to see any visible benefit, either for the public or the fraternity, in a new company; and we sincerely hope none will be started.

The telegraphers have certainly paid by their reduced salaries most of the losses sustained by the now defunct companies, and we fail to see that a new company at this late day will reverse the usual order of things.

A man hopelessly lost in the bush in South Australia, after wandering about for four days, came upon the telegraph line between Adelaide and Port Darwin. He hadn't strength to go further, but he managed to climb a pole and cut the wire. Then he made himself as comfortable as possible and waited. The plan worked well. The telegraph repairers were sent along the line, and they came to the wanderer in time to save his life.

ELECTRIC CLUB ELECTION.—One of the most largely attended meetings that has ever been held at the Electric Club in this city was that of the annual election of officers on April 18. The following officers were elected for the ensuing year: President, E. T. Gilliland; vice-presidents, O. E. Madden, E. N. Dickerson, Theo. N. Vail, H. C. Davis; secretary, Chas. W. Price; treasurer, Willard L. Candee; board of managers, M. W. Goodyear, H. L. Storke, A. H. Patterson, Cyrus O. Baker, Jr., Henry A. Reed, C. H. Barney, John A. Seely, W. H. Johnstone, Geo. B. Coggeshall, J. C. Tomlinson, J. W. Handren, H. D. Stanley, and C. E. Stump; Committee on membership, Henry Hine, Lieut. F. W. Toppan, U. S. N., George T. Manson, George Worthington and Henry D. Lyman. The dues were raised to \$50 per annum; initiation fee, \$50; non-resident members, \$30 per annum; initiation fee, \$25, commencing May 1, 1889.

One of the pleasant features of the marine parade on Monday was a private party on board the steam yacht "Electric," recently purchased by F. C. Mason, Superintendent of Police Telegraph, Brooklyn. After the parade was dismissed, Mr. Mason headed the "Electric" up the Hudson as far as Yonkers. The invited guests, which numbered twenty ladies and gentlemen, returned and landed at the foot of Twenty-third street at 7:30, where carriages were in waiting to take the entire party to Delmonico's, where they dined. The affair was one long to be remembered by those participating.

May's great telegraph song, "True Heroes Were They Who Died at the Key," now offered at the retail price of 40 cents, is a work destined to be sung by every telegrapher in the land. The words are beautifully appropriate; the melody, written in waltz time, is taking and flows like a rivulet; key of A major, highest note F sharp, lowest note E. It is dedicated to the "Telegraph Operators of the U. S.," and the title page is adorned with an excellent illustration of the "Catlin Grip," telegraph wire splice, etc. Copies can be procured from the *ELECTRIC AGE*, 5 Dey street, New York.

We extend our hearty thanks to Mr. G. B. Kirkpatrick, of the W. U., Boston office, for an excellent photograph taken by himself, of the house in which Professor Morse was born. The following inscription appears on the side of the house, which is still in an excellent state of preservation notwithstanding its age: "Here was born Samuel Finley Breese Morse, 27th April, 1791, inventor of the electric telegraph.

The Centennial celebration in New York caused a great rush of business in all the telegraph offices. It was not to be expected that two million visitors would remain silent while in the metropolis. The busy telegrapher knows few holidays and expects none.

The New York Telegraphers' Base Ball Club is organized and ready to transact business with any similar club from Maine to California. C. F. McCrum, or E. F. Stevens, of 195 Broadway, will receive challenges from anywhere.

The Milwaukee *Daily Review* pays our old friend, Mr. Peter McGill, a well-deserved compliment in an editorial, because of his warm advocacy of the single tax movement. Mr. McGill is a well-known ex-telegrapher.

A slip of the pen made the special read: "All the Harrison flowers were on hand." The heartless editor insisted on the compositor making it "Harrison followers."

Philadelphia desires a little of Mayor Grant's application of his hatchet in ridding the streets of the poles.

The three telephone companies of England have effected a consolidation.

THE ELECTRICAL CONDENSER.

To the Editor of THE ELECTRIC AGE.

In your number of May 1st, page 3, Mr. William Maver, Jr., states in his able article on condensers as follows: "It is safe to assume that there is *no* substitute for the condenser as a 'static compensator' in submarine cable duplex telegraphy, and no practically successful substitute for it in overland duplex telegraphy. * * * On these assumptions the money value of the condenser as a static compensator may be estimated at millions of dollars. The Baltimore and Ohio Telegraph Company alone by the use of this instrument (the condenser) were (sic) enabled to operate many thousand miles of duplex and quadruplex circuits, which without it could not have been successfully accomplished."

For the information of your many readers I venture to say that Mr. Maver's assumption is not correct, inasmuch as the Bankers' and Merchants' Telegraph Company successfully operated 12 000 miles of duplexed circuits from March, 1884, to October, 1885, without giving to the artificial line a static capacity equal to that of the main line wire.

A commission composed of Henry Van Hoevenberg, Charles Cuttriss, and Minor M. Davis, all well-known and competent electrical experts, have recently made a test of the Jones Static Compensator on the Postal Telegraph-Cable Co.'s New York and Chicago Produce Exchange duplexed wire (one of the fastest circuits in the country), 1,027 miles long, with repeaters at Olean 400 miles from New York. The wire was entirely equipped with compensators, and tested for two weeks in wet and dry weather, and the Commission reports as follows:

"NEW YORK, Feb. 14, 1889.

"The object of this device is to provide in the polar duplex an efficient compensation for the effects of the static discharge, to be used in place of, and for the same purpose as, the Stearns Condenser. Briefly, the instrumentalities used for this purpose consist of an induction coil, the primary circuit of which forms a part of the main line, the secondary circuit discharging into a separate coil on the receiving relay. This arrangement was examined working under various conditions of weather, and it was found to accomplish its purpose *effectively in every case.*"

I do not claim any originality for the idea of the compensator, the principle of which was clearly foreshadowed in Cromwell F. Varley's English Patents, No. 1,318 of 1855, and No. 3,059 of 1856. The practical application to neutral and polar duplexed wires, and later to Edison's quadruplex, is the extent of my contribution to electrical progress in this particular.

F. W. JONES.

Inventor M. L. Hussey, of Menlo Park, has secured a patent for a watch to run by electricity. The battery is enclosed in the watchcase, and with it the timepiece will run for a whole year without any attention.

"Unxawatawny" is the way the name of that lively Jefferson County, Pa., borough, Punxsutawney, appears after it has been carried to Kentucky by telegraph and printed in a Louisville paper.

M. Coulon, Director of Posts and Telegraphs, in France, has directed experiments to be made with a view to telephonic communication between Paris and London.

An electric fire engine is a new invention. It can be started at full speed, is much lighter than the steam fire engine, and possesses various other advantages.

In an electric road the power the engine develops is directly in proportion to the work being done, whether one or a dozen cars are in the circuit.

ROMANTIC BRIDAL TRIP.—Mr. A. G. Smith, of Hoisington, Kans., agent of the Missouri Pacific Railroad at that point, arrived in St. Louis yesterday, en route to New York, where he will meet Miss Nellie Turner, of Merstham, Surrey, England, whom he will marry. The bride and groom have never seen each other, and were total strangers until introduced a few months ago, by letter, by a mutual friend. A correspondence thus sprung up between them and then the old, old story was repeated. At first friendship, then something warmer. Photographs were exchanged, which were mutually pleasing. Then followed a proposal and an acceptance. Last Wednesday Miss Turner sailed from Liverpool on the steamer City of Berlin. She will arrive in New York next Wednesday, where she will be met by Mr. Smith, and the wedding will follow immediately. The bridal couple will visit Toronto (Mr. Smith's childhood home), Montreal, Chicago, and St. Louis, on their way to the groom's home in Kansas.—St. Louis *Republican*, April 27.

While George Kennan was in Cincinnati a week ago he received a call from C. W. Price, of New York, who was associated with Kennan in the first expedition through Siberia. Both men were expert telegraphers, and their trip was in the interest of capitalists in this country, who desired to connect the two continents by telegraph by way of Behring Straits. This was before the successful laying of the Atlantic Cable. At the end of the trip Price and Kennan separated, and had not seen each other since. Mr. Price is now engaged in electric street railways, and Kennan's career is too well-known to require recounting. It is scarcely necessary to say that the meeting, after so many years, was thoroughly enjoyed by both.

A despatch from Paris says: French Cable Company shares have risen 14 francs. The Company relying on the favorable verdict in the matter of the Anglo Company's appeal, has applied to the government to authorize its association with Mackay and Bennett. The board of directors is about to ask the shareholders for powers to raise a loan of \$200,000 to be expended on repairs.

George W. Trout, chief operator in the office of the Western Union, Pottstown, Pa., has mysteriously disappeared and his whereabouts are unknown. It is said that he shipped his clothing away some time last week. He did not give his employers any notice of his leaving. James Haines, of Hamburg, has been appointed in his place.

Mayor Grant continues to remove Western Union poles from the streets, but the latter stands idly by and allows the wrecking to go on unmolested. The wires are dead and abandoned by the telegraph company, and the city is therefore disposing of the Western Union rubbish.

A printing telegraph machine which has an attachment for making an audible signal for each letter printed, so that the message may very easily be read by sound, has been recently invented by a gentleman named George V. Sheffield, of Schenectady, N. Y.

The Atchison, Topeka and Sante Fe Station House at Fountain, Colo., was broken into a few days since by two tramps, who murdered the night operator, A. C. Hastings, and robbed the body of \$65 and escaped. Mr. Hastings was a popular member of the O. R. T., whose members largely attended the funeral.

A novelty in the application of electricity to musical instruments has lately appeared in Germany by which a movement of electro-magnets changes the timbre of the tone.

While electricity is rapidly supplanting mineral oils in lighthouses, yet the electric light is not so good as oil in penetrating fogs.

PHILADELPHIA NOTES.—The bicycle carries few as handsome and gentlemanly as ex-Assistant Attorney General of the State, Samuel Boyle, who, in the seventies, was a member of the telegraph force at Third and Chestnut sts. J. B. Fleshman, Charles Chatman, Victor Rouillot and Walter Snyder are prospering in the commission business. Operator Knudson, of Woerishoffer & Co., New York, recently visited his friend Harry Leahy, with Narr & Friend, which firm very generously assisted in making his visit one that Knudson will ever remember as exceedingly pleasant. Harry Thatcher, after fully considering "Is marriage a failure," has concluded to solve the question. We trust Harry will be able to give a favorable report to the curious. Our old friend, Andrew P. Sell, devotes his few spare moments persuading the boys to become Knights of the Mystic Chain, and has thus far succeeded in largely increasing the membership of that order. Andy, by the way, puts his name down on the already large list for another year's subscription of the AGE. Night Chief J. P. McLorraine left here on the 5th for Chicago, to visit a younger brother who is very ill.

The funeral services of Mrs. Cornelia L. Ives, mother of William L. Ives, of 195 Broadway, New York, who died in New York, Sunday, May 5th, took place at Syracuse on Monday of last week. Mrs. Ives reached New York April 27, intending to spend her remaining days with her son, who had made every arrangement for her comfort. The excitement of the journey was too much for her. Her passing away was as peaceful as if she was going into a gentle slumber. She was eighty-one years old. Mr. Ives has the sympathy of his numerous friends.

Newark Division, No. 118, O. R. T., held a special meeting at Elizabeth, N. J., April 28, for the benefit of operators who are unable to get to their regular meeting rooms in Newark for initiation or other information regarding the order. The attendance was large and the increase in membership was gratifying. The reception and ball which this division held February 28th, was a grand success in every respect. The financial result netted the treasury \$190, in addition to which the increase in membership puts Newark division in a most prosperous condition.

Chief Operator Gurley, of the Western Union, Cleveland, Ohio; Isaac Morris, assistant night chief; O. M. Sayre and E. C. Stockwell, of the same office, have recently exposed so-called "occult telegraphy," which prevailed in Cleveland. The operator who manipulated the spirit relay was exposed in New York City in these columns two years ago, his scheme being palpably simple to an experienced electrician. Mr. Gurley constructed a similar device to the one used by the Professor, and was able by its use to deceive the most skeptical. Doctor Gurley has certainly earned his title.

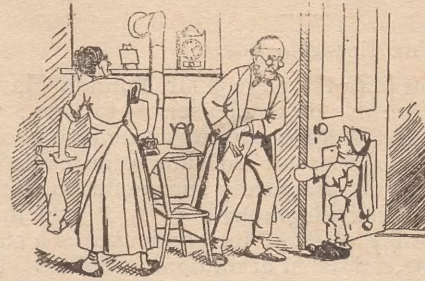
BORN—To Mr. and Mrs. E. W. Collins, of Cleveland, Ohio, a daughter, in New York City, on April 27.

J. A. LePage has been transferred from the Metal Exchange to 25 Broad street, office of the Postal Co.

THE ROE FUND.—The following contributions have been added to the Roe Fund since our last acknowledgment: From Elmira, N. Y.: F. E. Fitzgibbons, W. H. Owen, J. F. Campbell, Charles L. Jones, W. B. Herron, L. K. Miller, J. E. Riley, W. H. Shea, T. P. Shannon, John Malone, Jr., P. H. Enright, \$1 each; A. W. Corien, F. S. Clark, W. E. V. Kemp, and John Quigley, 50 cents each; from Worcester, Mass.: F. N. Cooke, A. P. Dewar, J. H. Powers, A. T. Harrison, and P. Cunningham, \$1 each; and J. T. Stevens, Woonsocket, R. I., \$1. Total, \$19; previously acknowledged, \$401.15; grand total to date, \$420.15. Mr. Roe is no better, and there is no hope of his recovery.

THE BACKWOODS TELEGRAPH SYSTEM.

(From Jud je.)



Improvised Messenger—Message, 50 cents; writing it out, 10 cents; envelope, 5 cents; inclosing, gumming and directing it, 18 cents; new pair of rubbers for boy, 50 cents; carriage hire, \$1; ringing the bell, 10 cents; use of pencil in signing name, 5 cents; loafing on the way, 50 cents. Ante up quick, old man; I'm in a hurry!

Mr. J. Marion Creamer, of the Western Union night force, at Baltimore, Md., has accepted the position of quad and repeater chief in Richmond, Va., where he will be found hereafter. He had a similar place in the B. & O. main office, New York city, before the consolidation. Mr. Creamer is a gentleman of exceptionally good habits and unblemished life, does not know what liquor tastes like, and has distinguished himself for persevering application to duty. He is of delicate physique, but comes of long-lived ancestry, and all the insurance companies seem to think him a hard man to kill. Very few would suspect what an immense capacity to the cubic inch he carries with him for hard work. Every one wishes him success.

Miss Nolia B. Mullen, manager of the Western Union, at Arkansas City, Ks., was equal to the emergency occasioned by the recent Oklahoma rush. Miss Mullen was assisted by Miss Van Ausdel, of Kansas City, Mo., and 35,000 words of special were handled in one night alone from this office.

NOT ON SPEAKING TERMS.—Oldmanson: "Have you a telephone, Biggs?"

Biggs: "No, I am not on speaking terms with the company. Their rates are too high."—*Burlington Free Press*.

Two resistances may be compared by joining them in series with a battery and observing the deflection of a galvanometer connected successively with their terminals.

A 1,000-mile submarine cable is to be laid from Banjoe-wangie to Western Australia, to avoid the interruption of volcanic upheavals.

Special dynamos are now made which will, with an expenditure of 100-horse power, precipitate eighteen tons of copper per week.

MARRIED.—At Baltimore, Md., May 1, Wm. S. Sullivan, assistant chief of the Postal office, to Miss Kate L., daughter of Capt. Jas. H. Pate.

Mr. Edgar W. Collins, chief operator of the Postal Telegraph Co., Cleveland, O., was in town last week.

Paul Ritter, weight nine pounds, was born to Peter Ritter, the popular elevator man, at 195 Broadway, on May 9.

Quincke's experiments illustrate the tendency of lines of force to separate from each other.

The Western Union building was handsomely decorated during the Centennial celebration.

St. Louis proposes having a six weeks' electrical exhibition in September.

THE PHILLIPS CODE.

A THOROUGHLY TESTED METHOD OF

SHORTHAND,

ARRANGED FOR

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And Contemplating the Rapid Transmission of Press Reports ;

ALSO INTENDED TO BE USED AS AN

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GENERAL MANAGER OF THE UNITED PRESS.

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PRESIDENT.

J. W. MCLAREN,
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O. E. MADDEN,
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GOODS AT MODERATE PRICES.

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OR WRITE. ESTIMATES CHEERFULLY
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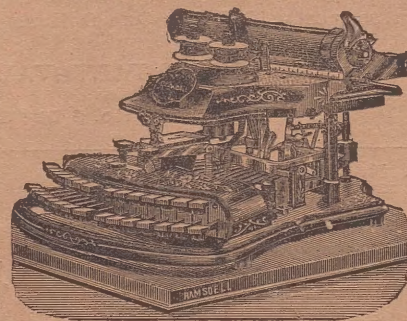
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