

Technical and Bibliographic Notes / Notes techniques et bibliographiques

Canadiana.org has attempted to obtain the best copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

Canadiana.org a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.
- Additional comments /
Commentaires supplémentaires:

Continuous pagination.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression
- Includes supplementary materials /
Comprend du matériel supplémentaire
- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.

CANADIAN ELECTRICAL NEWS

J. D. HORN,

EDITOR.

VOL. 1.

MONTREAL, JUNE 15, 1884.

No. 6.

ELECTRIC

ROYAL

MANUFACTURERS OF
DYNAMOS, LAMPS

— AND —

ELECTRICAL APPARATUS.

Contractors and Builders of

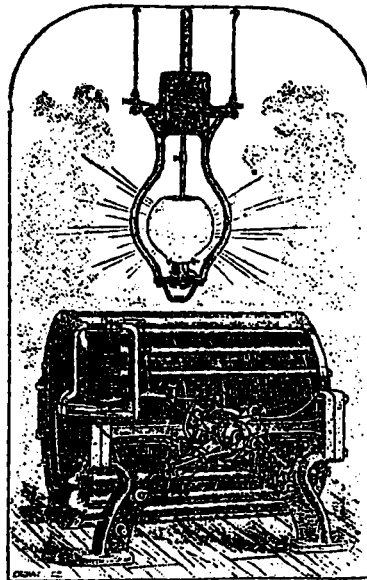
**ELECTRIC ARC
LIGHT STATIONS**

THROUGHOUT THE DOMINION.

OFFICE

162 St. James Street - Barron Block, Montreal. 32 Dowd Street - - - - - Montreal.

LIGHTING STATION - - 11, 12, 22 INSPECTOR STREET, MONTREAL.



LIGHTS!

ELECTRIC CO.

BEING ORGANIZED UNDER SPECIAL ACT.

Only Perfect Automatic Self-Regulating System of Electric Arc Lighting in the World.

In all desirable qualities of ELECTRIC ARC LIGHTS the THOMSON-HOUSTON or AMERICAN ARC SYSTEM has no equal. The Lights are SUPERIOR IN COLOR AND STABILITY, and the entire apparatus is more ECONOMICAL, EFFICIENT and SAFE, more EASILY MANAGED, and LESS LIABLE TO DERANGEMENT than any other. This system was awarded the FIRST PRIZE for the BEST SYSTEM of arc lighting and the BEST ARC LAMP, at the Cincinnati Industrial Exposition of 1883.

This system has been awarded SUPERIORITY IN ALL THE COMPETITIVE TESTS to which it has been subjected. NEW ILLUSTRATED PAMPHLET will be sent on application.

**ROSS & IRVINE,
MANAGERS.**

FACTORY

SUCCESSOR TO M. A. BUELL,

WM. B. CLEVELAND,

MANUFACTURER AND DEALER IN

ELECTRICAL APPARATUS & SUPPLIES.

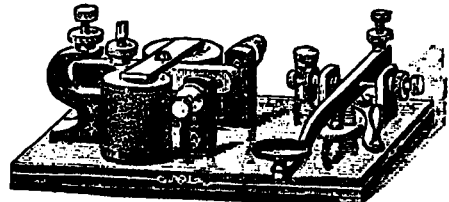
Telegraph Annunciators, Motors, Batteries, Call Bells, Electro-Medical Apparatus, &c. Special and Experimental work to order. Correspondence solicited,

EUREKA No. 1.



- Sounder\$2.50
- Key.....1.50
- Complete Outfit.....4.75
- Incandescent Lamps at.....2.00

IMPROVED STAR INSTRUMENT.



- Price.....\$3.00
- Complete Outfit, includes Battery, 15 ft. wire,
Book of Instructions, &c.....\$3.75

Leader Building - - 144 Superior Street,
CLEVELAND, OHIO.

THE CANADIAN ELECTRICAL NEWS.

Published Semi-Monthly at No. 30 St. Helen St.,
Montreal, Q.

JNO. HORN, Editor. HART BROTHERS & CO., Publishers.

Correspondence on all Telegraphic, Telephonic or Electric Light subjects is solicited.

Readers are cordially invited to communicate their views and opinions on all topics within the province of this journal.

Items relating to Telegraphy, Telephony, Electric Light, or Inventions, will be thankfully received.

Rejected manuscripts cannot be returned unless accompanied by the necessary postage when received.

Subscriptions \$1 per annum in advance, if addressed to any place in the United States or Canada; to all Foreign Countries, the price is \$2; Single Copies 5c.

All business communications, subscriptions, or letters relating to advertisements should be addressed to the Publishers

HART BROTHERS & CO.,
30 St. Helen Street,
or P. O. Box 786,
Montreal, Q.

MONTREAL, JUNE 15, 1884.

OUR ADVENTURE.

SIX numbers of the CANADIAN ELECTRICAL NEWS have been scattered broadcast over the community of workers of the electric current in Canada, and we may assume that very nearly all those who are likely to be benefited by having a journal of this kind have either seen it or heard of its publication. The time has now arrived when we can ask if the paper merits the patronage of those in whose interest it is published, and whether they wish it to be continued?

The first number had scarcely been entirely printed off when we received several subscriptions and gratifying encomiums on its appearance, with, we may add, several *lavish* promises of warm support from gentlemen who are largely interested in public companies, which almost control at present the working of electricity in the Dominion. While we are positive that these gentlemen are sincere in their desire to encourage us, we have not yet noted any practical manifestation of their good wishes, beyond the aforesaid subscriptions, and we must now ask them the question, unless you give us practical support, how are we to pay the printers?

A few words from any of these leading influential men to their intimate friends, or who they may think should help us, would procure their subscriptions, and we ask that these kind words be spoken *now*, and thus substantial help be given to the paper at the time that it is most needed.

We have ungrudgingly given our time and hard work in the editorial department, and would continue to do so without being reimbursed, until the journal is well established with a large subscription list, but this is not enough of itself to keep the paper going; the printers must be paid; they will not supply the expensive paper on which it is printed, nor will they give the labor of the type-setters, nor the use of the steam power on credit, and it is just as well that we speak plainly to our well wishers, and state that, financially, the journal has not been as successful as it should be, were the promises of our friends at its birth fulfilled. There are other ex-

penses connected with the publication department which have been generously advanced by the publishers in the hope that the outlay would be returned eventually; there must, however, be a limit to these advances if they have reason to believe that the tens of thousands of persons in Canada who obtain an income from electricity, do not desire to have one single journal as an organ or recording medium of what happens in this or in foreign countries to interest them.

Telegraph, telephone and electric light operators before this journal was published knew little or nothing of what was going on in their branches of the business outside of the locality where they were working. They could not ascertain where there were vacancies or positions open to their soliciting; in fine, they had no opportunities to better themselves. We have endeavored to give them all the assistance possible, but unless they read our paper, unless those who have the information to give us about vacancies send us this information, how can the operators better themselves? Their apathy is remarkable to say the least. They will do nothing, apparently, to help themselves, or even support one single paper in all this broad Dominion, which, since it was first printed, has endeavored solely to seek their welfare. Does this apathy of which we complain spring from indifference as to their future? Can it be possible that they are, one and all, satisfied with their present situations and prospects, or do they dream of some other less practical and more expensive mode of obtaining better salaries, such as was tried in 1883, than what the columns of our journal affords them, the good old plan, the only true road to success—each man looking out for himself. If they have grievances which they wish to have redressed let us know what they are, the besom of publicity often sweeps clean away all such troubles. This is their own paper, employ it for such work, read it and prosper. Eschew all other visionary chimeras or utopian schemes, hatched among people whose interests are not yours, who will not give one farthing of their money to help you, as you well know. To make our meaning plainer, if you are discontented at Quebec it is better for you to obtain a vacancy at Winnipeg or St. John, at a higher salary, than to remain at Quebec to help a probable strike when ordered from New York? You can lose nothing by being patriotic. Support your own Canadian paper, and it will surely give you real credit and honor in foreign countries; more, believe us, far more, than if you let it alone at the bidding of foreigners.

From the far-off Pacific Province comes this letter:—

NEW WESTMINSTER, B.C., May 26.

"Enclosed please find \$1.00, covering one year's subscription to your interesting little paper, which I sincerely trust may prove a financial success. It is something that Canadian telegraphers have been in need of for a long time."

We thank our friend for his kind words; we have many other letters as encouraging, but this is the latest.

A WORD TO CORRESPONDENTS.

TELEGRAPH and Telephone operators are often informed of incidents and events which would interest others engaged in the business. Were these reported in the CANADIAN ELECTRICAL NEWS and thus placed on record, the writer of them, at a small cost to himself, confers a benefit generally. We shall be pleased to insert these letters, and should any of our readers see aught in the paper which may not be in accordance with their own particular information, or their opinions, our columns are open to them, whether to correct any mis-statement, or to express their personal views. If a town wishes to have the Electric Light, a letter from the place, giving the probable number of lights wanted, inserted in the CANADIAN ELECTRICAL NEWS, would be certainly read by all the Canadian and American Electric Light Companies, and a representative of one or more of these companies to the place would assuredly follow. If any town wishes to have a Telephone Exchange, and the want is written to this paper, the Telephone will come, if there are fifty subscribers to be had. When writing us on these matters, write only on one side of the paper, and do not seal the envelope, writing the words *Printer's Copy* in the upper left-hand corner of the envelope, affix a one cent stamp, and address

To The Editor,

CANADIAN ELECTRICAL NEWS,
Montreal.

AGENTS.

We would like to have an operator in each of the large cities to act for us as Agent, to obtain subscriptions and advertisements. Besides assisting *their own* Canadian Paper, we will give a liberal remuneration for such services, and as only a portion of their spare time would be devoted to this work, we trust to have responses from many of our friends.

CLUBS.

ANY friend who forwards us five subscriptions, we will send a copy of the NEWS gratis for one year, to any address in Canada or the United States.

ACKNOWLEDGMENT.

We have received the first six numbers of *The Telegraphist*, a monthly journal for Postal, Telephone, Cable, and Railway Telegraph Clerks, published in London, and edited by William Lynd. It is well printed and full of entertaining matter of a general character.

CITY LOCALS.

Mr. W. L. MATTHEWS is now acting as Associated Press Agent.

THE Royal Electric Company are now about extending operations to Galt, London and Hamilton, Ont.

THE Royal Electric Company made the exterior and the interior of the recent "Kermesse" Fair bright with their lights.

MR. WILLIAM CASSIDY, President Canadian District Telegraph Company has been appointed one of the liquidators of the Corriveau Silk Works Company.

WE should like the name and address of all Superintendents and Chief Operators of all Railway Telegraph lines. Will our kind readers oblige us all they can in this respect?

THE Telegraph line on the Ontario and Quebec Railway was finished at a late hour on the 7th inst. The work was only commenced on April 1st, so that the whole 200 miles has only taken two months in construction.

WE understand Mr. James Baxter, one of our local financiers, is now interested in the Electric Light business. This gentleman's well known activity is a sufficient guarantee we may shortly look for active competition in this field.

STEVE KELLY, engineer G. N. W. Co.'s main office building, takes great pleasure in running his engine the "Wiman." The compressed air generated is principally used for elevating the boxes with messages from the receiving department to the operating room.

A CORRESPONDENT wishes to know if the Edison Electric Light Company has any representative in Canada who can fit up the same lights as he has seen in New York, about which he writes in glowing terms. Will some of our readers give the information desired?

"HAVE you given electricity a trial for your complaint, Mrs. Fishwhacker?" asked the minister, as he took tea with the old lady. "Electricity?" said she. "Well, yes, I reckon I has. I was struck by lightning last summer, and hove out of the window; but it didn't seem to me no sort of good."

THE Windsor Hotel Company has under consideration a proposition for the supply of a special incandescent electric light, using an engine to be erected on the premises. This, it is thought, will be a more economical method of supply than its conveyance from distant stations with the certainty of leakage and the cost of conductors and wires.

MR. JAMES BAXTER, of this city, purchased on the 7th inst., the entire assets of the Phoenix Electrical Company, including patent, patent rights, and all interests held by the company in pending application for patents and will, in conjunction with Mr. Smith, thoroughly reorganize the same. The price paid for the whole plant was, we understand, some \$7,000.

MR. HENRY E. IRVINE, who has been treasurer of the American Electric and Illuminating Company of Boston for the past year or two, has resigned that position to take the management of the Royal Electric Company of Canada, with headquarters in Montreal. His late associates in the American Company one evening recently testified their kind personal feelings towards him, and their appreciation of his faithful and assiduous services to the company, by giving him a complimentary dinner at the Tremont House. A fine menu was served, and afterward speeches, toasts and songs made the occasion very pleasant to all present.

CORRESPONDENCE.

To the Editor of the CANADIAN ELECTRICAL NEWS:

I am informed that there is no reason why an opposition telephone company could not operate in Canada. I hear that the Bell Telephone Company are not legally possessed of some of the patents, or that they could be used without paying them royalty, that they have not complied with some requirement of our patent laws. Can you shed any light over the hidden mysteries of this business, and oblige

A CONSTANT READER.

Montreal, 10th June, 1884.

REV. L'ABBE H. A. VERREAU, who is Principal of the Jacques Cartier Normal School of this city, one of our latest subscribers, said to us he thought the day was not far distant when every college of note would have to employ a professor in electricity.

DOMINION NOTES.

Mr. George W. Babbitt, chief train dispatcher of the Canada Southern at St. Thomas, Ont., has invented a new and very useful attachment to signal machines in the way of an electric automatic signal register to be attached to railroad signals and utilized in registering the changes in the same. The object which will be attained is that when a signal is changed at any station on the road, the character of the alteration will be plainly shown at the dispatcher's office. This result is secured by the use of a wire circuit and the movement of a metallic lever over long and short pieces of metal insulated from each other and arranged to indicate the keyboard of any particular station. The adoption of the invention on a railroad will obviate all danger of incorrect signals being displayed at depots, as the chief train dispatcher will be enabled to observe at a glance whether the proper signal is hung out.

THE Greek ritual forbids any lights inside of the Greek Church other than candles, and when it came to lighting the cathedral of St. Petersburg by electricity, a serious difficulty presented itself. But a way was found out of it. The electric lamps were placed outside of the windows, and an extra set of windows were placed outside of the lamps. The result is that the Church is lighter by night than by day, the law has been complied with, and everybody is happy.

Among the recent inventions is an electric hand lamp the illuminating principle of which is generated by some simple chemicals that are very cheap and easily manipulated. A small sliding drawer at the bottom of the lamp holds the electric spark in solution, while by simply touching a button a magnificent light is developed or extinguished, as required. The lamp is not materially different in appearance from the ordinary kerosene lamp and, it is said, can be used in the same way, but with a complete absence of trouble, odor or danger.

THE TELEGRAPH.

CYRUS W. FIELD foretells a great business revival this summer.

THE cable between Meat Cove, C. B., and the Magdalen Islands is broken near Cape Breton. Steamer Newfield, which is at present supplying lighthouses on the west coast of Nova Scotia, will, as soon as that work is completed, be sent to repair the work.

WE are told that out of the nine telegraph cables that now stretch from continent to continent under the Atlantic, only three are in working order, and that of these three, one works only one way. This last statement seems very singular, but is made on excellent authority. The fact is that the life of a submarine cable is limited at best, and that from eleven to fourteen years generally uses up the best of them. The idea, once prevalent, that a cable once safely laid down was good for all time, has to give way before discovered facts.

WE have often heard of the wonderful line between this country and Teheran, the capital of Persia, a distance of 3,800 miles, but we scarcely realized the fact that good signals were obtainable through so great a length of wire until recently, when we availed ourselves of an invitation from Mr. W. Andrews, the managing director of the Indo-European Telegraph Company, to make a visit of inspection. It was between 7 and 8 on Sunday evening, April 13, when we reached the office. In the basement of an unpretentious building in Old Broad-street we were shown the Morse printer in connection with the main line from London to Teheran. The courteous clerk in charge of the wire, Mr. Blagrove, informed us that we were through to Emden, and with the same ease with which one "wires" from the City to the West-end, we asked a few questions of the telegraphist in the German town. When we had finished with Emden, we spoke with the same facility to the gentleman on duty at Odessa. This did not satisfy us, and in a few seconds we were through to the Persian capital (Teheran). There were no messages about, the time was favorable, and the employés of the various countries seemed anxious to give us an opportunity of testing the capacity of this wonderful line. T. H. N. (Teheran) said "Call Kurrachee," and in less time than it takes to write these words we gained the attention of the Indian town. The signals were good and our speed must have equalled 15 words a minute. The operator at Kurrachee, when he learned that London was speaking to him, thought it would be a good opportunity to put us through to Agra, and to our astonishment the signals did not fail, and we chatted pleasantly for a few minutes with Mr. Malcom Khan, the clerk on duty. To make this triumph of telegraphy complete, Agra switched us on to another line, and we were soon talking to a native telegraphist at the Indian Government Cable Station, Calcutta. At first the gentleman "at the other end of the wire" could not believe that he was really in direct communication with the English capital, and he exclaimed in Morse language, "Are you really London?" Truly this was a great achievement. Metallic communication without a break from 18, Old Broad-street, London, to the telegraph office in Calcutta! 7,000 miles of wire! The signals were excellent, and the speed attained was not less than 12, perhaps 14, words per minute.—*Telegraphist, London.*

EARLY CANADIAN TELEGRAPH HISTORY.

MONTREAL TELEGRAPH COMPANY.

NOTICE TO CONTRACTORS

Tenders for contracts will be received by this company for Posts, twenty-six feet long by five inches in diameter, at the smallest end, to be delivered along the line of the road from Kingston to Quebec, in even quantities, and at such intervals as specified underneath. The posts to be of Tamarac, stripped of the bark, the branches being closely trimmed off, the ends sawn square, and the wood perfectly sound.

Between Kingston and Prescott.....	1,360
“ Prescott and Cornwall.. .. .	980
“ Cornwall and Montreal.....	1,640
“ Montreal and Berthier	900
“ Berthier and Three Rivers.....	900
“ Three Rivers and Quebec	1,800

To be delivered on or before the fifth of April next along the Queen's Highway, in parcels of ten posts each in distances of half a mile. In localities where Tamarac cannot easily be procured, Cedar may be tendered in lieu of it.

A preference will be given to such tenders as propose supplying the greatest number of stations, and satisfactory securities will be required for the due fulfilment of any contract to be made.

Tenders to be addressed to the Secretary of the Montreal Telegraph Company. None will be received later than the 10th proximo.

By order,
FRANK S. WILLSON,
Hon. Secretary.

Montreal, January 28th. 1847.

Montreal, January 23rd, 1847

At a meeting of the Board of Directors of the Montreal Telegraph Company held this day, Andrew Shaw, Esq., was unanimously elected President of this Company.

FRANK A. WILLSON
Hon. Secretary.

MONTREAL TELEGRAPH COMPANY.

This Company, whose operations will extend from Toronto to Quebec, have appointed Mr. O. S. Wood their General Superintendent, at a liberal salary. He has been the operator on the New York and Buffalo Line of Telegraph, and is considered here at the head of his profession.—*New York Journal of Commerce*, March, 1847.

GEORGE D. MORGAN, of New York was on the 11th instant, elected a Director of the Western Union Company, to succeed the late August Schell.

The city officials of Philadelphia took possession of the wires of the Postal Telegraph Company strung upon the city's Posts on 12th inst., on account of the failure of the company to put the wires underground.

MR. E. ALFORD, for some time past a most obliging and intelligent employee in the telegraph office Brautford has been promoted to a more lucrative "sit" in the London office. His many friends wish him success wherever his lot may be cast.

THE TELEPHONE.

The Western Electric Company of Chicago are making a new multiple switch board for the Bell Telephone Company of Canada for their Toronto Exchange, which has recently removed into new quarters.

The paid up capital of the Bell Telephone Company of Canada is one million dollars; assets about one million two hundred thousand dollars. The Company is paying seven per cent. dividend to its shareholders.

The net revenue for 1882 was.....\$ 69,590 15
“ “ “ “ 1883 “ 112,233 50

Showing an increase.....\$ 42,643 35

The Bell Telephone Company, of Canada offers for sale \$100,000 six per cent., ten year first mortgage bonds at 93 and accrued interest from 1st April, 1884, which price will pay the purchaser seven per cent. per annum interest, payable half-yearly on 1st October and 1st April.

These Bonds are in denominations of \$1,000, \$500, \$250, and \$100, and form part of an issue authorized by Act of Parliament, which is a first lien upon all the lines, works, and plant of the Company.

COX'S PATENT "INFOLD."

Mr. Cox, Treasurer and Superintendent of Supplies of the Great North-Western Telegraph Company, Toronto, explains his recent invention, "The Infold," for which he has obtained patents in the United States and Canada as, follows:—The "Infold" is a device for folding a sheet of paper containing a telegram, invoice, monthly statement, way-bill advertising circular, or ordinary letter in such a manner that the address written by the operator or writer of the document appears on the outside of the communication when folded. It is extremely simple, efficient, and possesses the following advantages over the old style of envelope and separate blank:—Division of the form itself necessary to opening; no chance of tearing the message while being opened; all addressing clerks' salaries saved; all tampering with the check by messenger made practically impossible; the saving of the time taken up in addressing; the difference between the cost of the new form and label and the old envelope and form. It is the *adaptation of the principle* that is patented, not the exact form of the paper or the folding of the telegram blank adopted by the G.N.W. Telegraph Company. But as the inventor has given the matter very great attention for some years he is prepared to claim that even in the folding this form for safety and efficiency cannot be improved. Still the folds may be changed at will, so long as the infolding device is maintained. It may be as well to state also the advantages this patent has over other devices of a like intent: There are no peculiar flaps: the simple oblong form is maintained; it can be copied in the ordinary manner; once closed it cannot be tampered with; it fastens only at one end; it is opened with the greatest ease; the method of applying the labels is very rapid, as they can be readily loosened by touching them to a wet sponge, thus doing away with the present nasty licking process. There is no doubt about anything in connection with it. Its advantages over the old clumsy method are certain in every point. No fault has to be overlooked for a prospective good or uncertain gain. One of the foremost envelope makers in the States says: "It is eminently fitted for the purpose for which it is intended." It comes into use as a telegraph blank in the Montreal and Toronto offices of the G.N.W. Telegraph Company in a few days, and that company expects to place the new blanks on the whole of their system as the old stock becomes exhausted.

THE CORK TELEPHONE.

From the time when Prof. Page, of Salem, Mass., conceived his first idea of the telephone in 1837 science and mechanical skill have been busy in leading this masterpiece of creative genius on step by step up to its present perfection. Indeed the old world has during the last four decades vied with the new in developing scientific truths applicable to the improvement and perfecting of the telephone. Recognizing the superlative merits of the modern system, we are nevertheless met with the indisputable fact that the best have heretofore presented one or more features detracting from their usefulness and efficiency, such as an over-sensitiveness of the iron diaphragm, resulting in a decided interference with the distinctness of the articulation by the hissing, crackling sounds so observable in the ordinary telephones.

Messrs. Waite and Bartlett, after much deep scientific thought and patient labor, have been eminently successful in obviating this and other detracting features by substituting molecular action for mechanical vibration. To accomplish this end they discarded the membrane used in the Reis instrument and replaced it with cork in combination with embedded microphones of carbon or other material. The receivers too have sounding boards of cork, wood, paper or other non-magnetic substances. Their triumph was complete, and the Cork Telephone, manufactured under the patents of the Molecular Telephone Company, of 67 Wall street, New York, is recognized as being the *sine qua non* of telephonic devices. This company, organized under the laws of the State of New York in June, 1880, owns and controls the patents issued to Messrs. Lockwood, Bartlett & Waite by the United States, Canada, Great Britain, France, Belgium, Germany and Spain. The telephone manufactured by this Company and under these patents, which includes all the appliance requisite for this improved system, are pronounced by scientists and experts at home and abroad superior to all others. They have a capacity for transmitting speech, marked by perfect articulation, for long distances, while their precision, freedom from induction and durability are unequalled. Careful tests have demonstrated the fact that the Cork Telephone has transmitted distinct verbal messages between New York and Bridgeport, Conn., 60 miles; between New York and Philadelphia, 100 miles; between New York and Cleveland, O., 650 miles; between New York and Chicago, 1,020 miles, and to many other points with the same startling and satisfactory results. The Company is in a flourishing condition, and is officered as follows:—Charles F. Livermore, President; George Bell, Secretary and Treasurer; John H. Platt, Attorney; W. H. Peckham, Counsel, and Henry E. Platt, Electrician. The assistant counsel are A. G. Keady, of New Jersey, and A. S. Knox, of Massachusetts; and the consulting electricians Dr. W. F. Channing, of Rhode Island; Prof. H. Morton, President of Stevens' Institute of Technology, Hoboken, N.J., and Prof. C. F. Chandler, President School of Mines, Columbia College, New York. These distinguished names are ample guarantee that the Company's interests are in able and experienced hands, and bespeak for it a bright future. The Company is prepared to negotiate for licenses or rights for the Cork Telephones in all parts of the United States, Canada and foreign lands.

MR. WAOSTAFF, of St. John, N.B., District Superintendent, announces that the telephone at Mr. Hawker's drug store, Prince William street and Mr. McCarty's drug store, Haymarket Square, and Mr. Stevenson's, Main street, Portland, are public telephones, and can be used on payment of the ten cent rate. A public telephone is also to be put up in Indian town.

THE ELECTRIC LIGHT.

At the forthcoming Turin Exhibition a street railway will run from the Piazza Carlo Felice to the principal entrance to the building. The motive power will be supplied by electric accumulators invented by Signor Nigra.

The band of the Governor-General's Foot Guards gave an electric light excursion down the silvery Ottawa on the fine steamer *Peerless* June 10. Over five hundred were on board, and the excursion was a grand success. The lights were of 2,000 candle power each, and threw a silvery brightness everywhere over the decks, producing a decidedly pretty effect. The successful display of the new illuminator was very creditable to the superintendents, Messrs. Soper and Ahearn.

The Royal Electric Illuminating Company is now laboring energetically to permanently establish an electric lighting system in St. John, N. B., and it is meeting with good prospects of success. The high fee charged for the electric light at first led the public to suppose that its substitution for gas as an illuminating agent would, in a short time, hinder its more general introduction; but with improved facilities, the production of the light has become less expensive, and in many places in Canada, as well as in the United States, it is being used instead of gas, because it has proven much cheaper. Mr. M. Lee Ross, the manager of the Royal Electric Co., which uses the Thomson-Houston system, has formed a company composed of several of the wealthiest business men of the city, to be known as the "St. John Illuminating Company." They have applied for a charter, and have already shown to the public their intention of carrying on a legitimate business. The chief advantages of this company's light are perfect whiteness and the absence of other tints so often seen in arc lights, perfect steadiness and an avoidance of flicker. The regulator seems to keep the action of the dynamo proportioned to the work to be done just as a governor regulates the flow of steam from the boiler to the engine. Every ten buildings are made a separate division of the circuit, and by means of a switch can be instantly cut off from the rest of the system in case of necessity through fire or other cause, when the cut portion of the wire becomes dead, rendering it perfectly safe to be handled without in any way interfering with the light elsewhere. The progress of the company at present, is retarded somewhat, owing to their inability to obtain the right to put up poles in the city upon which to stretch their wires. In consequence they are obliged to cross house tops, which necessitates much inconvenience and considerably more expense than if they had the use of the poles on the streets. Notwithstanding these disadvantages, however, they are making every preparation to establish their light permanently in the city. The following are now using the light: Messrs. Furlong & Foley, Shiels, McClure, McArthur and Green, Green Bros., King street, and 20 lights are also running in the Nut and Bolt factory. They have now 22 subscribers. Three men are at work putting up the wires.

MR. R. C. J. DUNN has prepared plans for a permanent building to be used as a lighting station, and to be situated near the Bolt factory. It will cover a space 40x100 feet, and will be two stories high with flat gravelled roof, containing business offices, machinery room and three bed rooms for the men who will be required to look after the machinery permanently. The company are to have built immediately two engines of 100 horse power each, and two boilers of 125 horse power each, so that in the event of an accident to one engine the other can be used without causing any interruptions to the running of the lights.

The one thousandth performance in the Tabor Grand Opera House, Denver, Col., took place on the 19th inst. The great audience was successfully photographed with the aid of 50 electric lights temporarily placed in the auditorium. A copy of the photograph will be given to each lady in attendance as a souvenir. Rhea, in the "School for Scandal," was the attraction. We hope Manager Barnett, of the Crystal Palace Opera House, Montreal, will be the next to astonish his patrons.

MR. ROBERT LAIRD returned to Port Arthur on the 4th inst., by the steamer Ontario. Since he left he has been busy looking after the interests of the town, and among his most important work is the formation of an electric light company. This organization, which has among its members several Port Arthur gentlemen, has secured the patent right to the Van Depoele system of electric lighting, and are prepared to supply the town with twenty lights—either one of which is guaranteed to shed sufficient light to enable a person to read from it at a distance of 700 feet at a cost of 62 cents per night. The smallest Van Depoele dynamo machine made has a capacity of 20 lights, and it must be conceded that this number would not more than serve the wants of Port Arthur. Mr. Thomas Marks has offered to supply the motive power within thirty days from now, and in the meantime the town and private individuals will be asked to patronise the new company to the extent named. The town will of course avail itself of the opportunity of securing a good and cheap method of lighting the streets, and the owners of the respective docks, when they consider the extra safety and the improvement upon the lamp system cannot help but adopt the light for their respective wharves. Of this particular system of electric lighting little need be said. It has a peculiarly soft and pleasing appearance, closely resembling sunlight itself. Its chief claims are its simplicity, ease of management while in operation, perfect control of the current to run any given number of lights up to the full capacity of the dynamo, there being a current regulator, automatic switch and current indicator, by which the current of electricity is controlled, and all danger from burning out prevented, and perfect safety in handling the lamps while the current is on. As a means of street and dock lighting, no better could be wanted, for it not only does away with the trouble of lighting—so often neglected—and extinguishing, but it reduces the chances of fire to a minimum. We welcome the chances of the improvement, and wish the company success.

A MEETING of some of the leading citizens of Richmond, Que., was held in Caxton Hall, on Tuesday evening last, to confer with Mr. Wash, the representative of the Royal Electric Light Co., of Montreal, on the feasibility of lighting the town streets. Explanations were given, and the question was discussed as to the practicability of forming a joint stock company who would treat directly with the Montreal Company for the right to sell the light. Some of the gentlemen present took the ground that as the lighting of the town was a matter of public interest, the Council should take the initiative. The company, which has contracted with the Oddfellows to supply a couple of lights for illuminating the grounds where their annual picnic will be held on Dominion Day, will very likely send out a six-light dynamo and the necessary plant for an exhibition, and will illuminate our streets for a few nights, by way of showing the wonderful efficacy of this wonder of the century. It is possible that nothing will be done in regard to taking up any scheme for lighting the town until after this exhibition, when the citizens will be able to judge for themselves of its value. The capital required for a scheme of electric lighting would be about \$4,000 to \$7,000 according to number of lamps that would be required.

FOREIGN NOTES.

PROF. P. G. TAIT remarks that lightning is 100,000 times as brilliant as it appears to us, since the eye requires one-tenth of a second to receive the full light of the flash, while the flash itself lasts only about one-millionth of a second.

LISBON, June 3.—The concession granting the right to lay a cable between Portugal and America has been transferred to the American and British Continental Cable Company. The first section of the cable to St. Michaels will be laid in September.

SPEAKING of Sir William Thomson's announcement of a belief in a "possible magnetic sense," the *Alienist and Neurologist* thinks that we might as well be logical and liberal, and add to the present senses the touch sense, the self sense, the power sense, the logical sense, and the physis, muscular and electro-magnetic senses. To divide and sub-divide is believed to be a growing habit with medical writers.

LONDON, June 2.—Lord and Lady Grosvenor and their friends, John Pender, M.P., chairman, and J. W. Fuller, secretary of the Direct United States Cable Company, are spending the Whitsuntide holiday at Ballinaskillog's Bay, on the southwest coast of Ireland, where a station of the Cable Company is located. During their visit Messrs. Pender and Fuller will make a thorough inspection of the Company's property in that vicinity.

IN A RECENT TRIAL on the Thames of an electric launch 40 feet long, with a storage battery, a speed of seven knots an hour was attained. The speed of a steam launch, with engine, boiler, water, and coal sufficient for six hours' run, would have been from one and a half to two miles an hour greater. Comparing the electrical system with steam, the advantages in favor of electricity are entire absence of noise, great cleanliness and very small room needed for machinery; and when once charged it is ready at a moment's notice.

ELECTRINE! ELECTRINE! ELECTRINE!

This invaluable preparation instantaneously removes Tar, Paint, or other spot or stain from any fabric, without injury. Will keep in any temperature. Free by mail for 25 cents. Try it, for it is a marvel.

HART BROS. & Co.

30 St. Helen Street, Montreal.

HART BROTHERS & CO., GENERAL MERCHANTS —30 ST. HELEN STREET,— —MONTREAL—

We beg to offer our services to all companies or firms desiring a Montreal correspondent. Established eleven years ago, our stability cannot be questioned, while a varied mercantile experience during that length of time, enables us to assure our patrons that their interests, if confided to us, will be watched with care and attention.

The Most Practical Telegraph Key Extant.

THE STEVENS TOP CONTACT KEY,

Patented April 10th, 1883.

Price \$4.00.

Top Contact, Top Connection, Non-sticking, Anti-Paralytic, Easy working, Thoroughly Tested, and Universally Approved For sale by

HART BROTHERS & CO., Agents.

30 St. Helen Street, Montreal.

OPERATORS, READ THIS!

Citizens' Insurance Company of Canada,

ESTABLISHED, 1864.

HEAD OFFICE, 179 St. James Street, MONTREAL.

FOR FIRE, LIFE AND ACCIDENT INSURANCE

LIFE BRANCH.

Agents are wanted in all places where the Company is unrepresented, to solicit Life business. The wealthiest Stock-holders of any Home Company own the Citizens' Stock, thus giving additional security to the Policy-holders. The expenses of the Life-branch are lower than those of any purely Life Company, thus adding to the profits which are always satisfactory to the Policy-holders. The profits paid are so large that when they are applied to the extinguishment of premiums, the burden of providing for one's family becomes easier, until there are no more premiums to pay. Premiums paid to a Canadian Life Office stay in Canada, adding to our country's wealth.

ACCIDENT BRANCH.

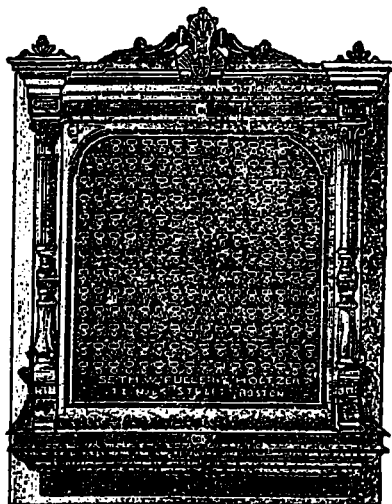
This Company wants Agents in every Town, to sell Railway Accident tickets. The Red tickets sell for 15c. each, and cover Accident Insurance for one continuous trip to the amount of \$3,000, if killed, or an indemnity of \$15 per week, for 26 weeks, if disabled. The Yellow tickets sell for 25c. each, and are good for railway trip and return journey for same amount.

Operators at Railway Stations and Hotels will add materially to their income by applying for Agencies, and should mention seeing this special advt. in this paper when writing to the Company.

Address the General Manager, at MONTREAL.

Electrical Goods of all Kinds.

ESTABLISHED 1868.



ESTABLISHED 1869.

ANNUNCIATING BELLS, BURGLAR ALARMS,
TELEPHONE & GAS LIGHTING MATERIAL.
EVERY VARIETY OF SUPPLIES.

Send for New Illustrated Catalogue.

SETH W. FULLER & HOLTZER,

22 MILK STREET, - - - BOSTON, Mass.

1884. INTERNATIONAL 1884.
ELECTRICAL EXHIBITION

—: TO BE HELD AT:—

PHILADELPHIA, U. S. A.

UNDER THE AUSPICES OF THE

FRANKLIN INSTITUTE,
Of the State of Pennsylvania, for the promotion of the
MECHANIC ARTS.

The Exhibition will be opened on Tuesday, September 2nd, 1884, and will be closed on Saturday, October 11th, 1884.



The Cumming (Circumference Contact) Telegraph Key.

The rapidity of this Key is three times as great as the old form. Telegraphers will find their labor reduced one-half, and companies should not overlook its economy. The Disc Electrodes (herewith illustrated) prevent sticking even under the most intense battery. These Electrodes are applicable to all Electrical Machinery. Price, \$5.00.

CUMMING & BRINKERHOFF,
219 East 18th Street, - NEW YORK.

FOR SALE.

A large Block of land of 140 acres, within the City Limits of Three Rivers, P. Q., fronting on the River St. Maurice, and intersected by the tracks of the North Shore R.R.

This magnificent property is admirably adapted for a large industrial enterprise, and will be sold on easy terms. Apply to **JOHN GODWIN, Esq., - - Three Rivers, P. Q., Hart Brothers & Co., Montreal.**

The Latest Electrical Books.

—: MODERN SERVICE OF:—

Commercial and Railway Telegraphy.

This is invaluable to Learners, as well as to ALL TELEGRAPHERS, who aspire to become proficient Commercial or Railway Operators. Handsomely bound in blue and gold, illustrated, 333 pp., 1884 Ed. Price \$2.00

Recent Wonders in Electricity, Electric Lighting, Magnetism, Telegraphy, Telephony, Etc., Etc., including Articles by Sir W. Thomson, Count du Moncel and Dr. Siemens, Illustrated..... Price \$2.

- Gordon's Physical Treatise on Electricity and Magnetism, second edition, revised and enlarged, 2 vols, 1883 Price \$14.00
- Hospitalier's Modern Applications of Electricity, translated, second edition, two vols, 1883..... Price 8.00
- The Chemistry of the secondary Batteries of Plante and Faure, 1883..... Price 1.25
- Urquhart's Electric Light, its production and use, second edition, 1883..... Price 3.00
- Du Moncel's Electric Lighting, translated 1882..... Price 1.25
- The Electric Light in our Homes, by R. Hammond 1883.... Price 1.25
- Berly's Universal Electrical Directory, 1884 Ed..... Price 3.00

Any of the above works will be forwarded on receipt of price by

HART B. OTHERS & CO.,

30 St. Helen Street, MONTREAL.