

# OMAHA ELECTRIC LIGHT & POWER CO

OFFICE: ROOM 6, NEW YORK LIFE BUILDING.

## INCANDESCENT AND MERIDIAN LAMPS

Incandescent and Meridian Lamps are constantly growing in popularity. Their simplicity, efficiency, low cost, flexibility of operation, and adaptability to all classes of service, are strong arguments in favor of its use. The Meridian Lamps solve the problem of economically lighting show windows, in all kinds of stores. It is intermediate in intensity between the arc light and the ordinary incandescent light. Unequaled, for porch, dining room, or living room. To keep cool don't use any other than electric light. It is the only cool, clean, hygienic, convenient and satisfactory illuminant and

## ARC LIGHT ILLUMINATION

The superior quality, volume and economy of the electric arc light is so well recognized, that it is rapidly surpassing all other artificial lights for high class mercantile illuminations. Where colored merchandise is displayed the question of uniform and steady illumination is of somewhat secondary importance, in comparison to the consideration of the color or quality of the light in general.

We are accustomed to regarding the colors of all objects in nature as being the property of the material itself, whereas in reality the color depends upon the composition of the light and the power of extinction of the various objects illuminated.

The sensation of white, such as produced by average daylight, is made up of all the colors coming within range of color perception. Artificial lights differ from daylight more or less in their composition or the proportion of the different colors they contain. For instance a light may be composed of too much red or green, while the violet waves may not be present in sufficient quantity. Certain artificial lights omit too much violet and others are too rich in yellow and green. In such cases where the balance is destroyed, the light is no longer white, but the excess or absence of some particular shade is clearly noticeable, not only by the color effect, but also by a lack of general brilliancy or distinctiveness. It is not only impossible to show material where the light is weak, but merchandise displayed where the light does not bring out the colors of the fabric, which robs the original color of its purity. This in many cases causes the customer to become undecided, and a lost sale results.

## ELECTRIC HEATING PADS

Do away with the hot water bottle. The electric pad is so far superior to it that there is no comparison to be made. It will stay hot as long as desired, being soft and pliable, light in weight, sanitary, and made ready immediately when wanted by simply attaching the cord, which is supplied with it, to any lamp socket. A switch may be provided at the bed side and can be turned on and off by the person using it.

## THE ELECTRIC FLATIRONS

Are made in numerous shapes and designs. The temperature remains even as long as desired. Can be used without heating the room to an excessive degree. One can also take it out on the porch, and there in the cool breezes, do all the ironing.

## ELECTRIC CHAFING DISH

Is ready, clean and safe. It is quite inexpensive to operate, and the heat may be regulated to a degree required with the utmost ease.

There is nothing to fill, or nothing to spill, and nothing to cause fire, and the electric chafing dish is always ready. It is sold in various sizes, and costs a trifle more than the "never ready kind," but not enough to make up for the difference and the quality of the service. A most convenient device for night suppers after the servants have retired.

## ELECTRIC STOVES AND BROILERS

Electric stoves and broilers can also be obtained. A child can operate these devices as well as an adult.

## ELECTRIC HEATING & COOKING UTENSILS

Where electricity is used in the house for lighting, there are numerous little convenient appliances which may be attached to any lighting circuit, and with double the value of the service to the family. The articles may be seen in the exhibition department of the Lighting Co. in the New York Life Building, Seventeenth and Farnam streets.

## ELECTRIC CURLING HEATERS

No flame and no soot. When the iron is inserted in heater, current is automatically turned on, and cut off when the iron is removed. Heats quickly, and the cost of operation so small that it is practically inappreciable.

## PORTABLE BRACKET LAMPS

A very useful device. It may be attached to the head of a bed for reading or stood on the table or writing desk.

## ELECTRIC POWER MOTORS

The merits of the Electric Motor as a means for supplying power for mechanical and commercial purposes are well known, and does not require extended notice here. Suffice it to say that no other power supply is so reliable or flexible in application or so inexpensive in maintenance and use as that furnished by a good old motor.

Figure all the costs and be convinced that electric power is more economical than any other power. A modern business should be run by modern power. You can run your whole plant with one motor, or you can run it with as many as you like. We, however, recommend the latter. With small motors, you can attach one to each machine, thereby effecting a great saving in power consumption, by not running useless line shaft. In other words, a higher efficiency is secured by installing a small motor for each machine to do your work. If necessary a motor can be driven at a 25 per cent overload continuously without materially affecting its efficiency and without heating above normal.

The current consumed is almost in direct proportion to the load. Our expert will help you to determine which is best for you. We want your power to cost you as little as possible. You want power that is always ready—a switch on your wall controls your power. It is ready when you are—stops when you say so—costs only when you use it.

### NEW CONTRACTS JUST CLOSED

We have just closed light and power contracts with the following well known concerns:  
**Merriam & Holmquist Co. Nebraska-Iowa Grain Co.**  
**Udike Grain Co. Independent Elevator Co. Hoagland Building.**

In all the horse power will aggregate 1630. The above firms have all had experience in private plants, and they are in a position to judge which power is the cheapest to use.

# Personal Recollections of Some of the World-Famed Electricians

By Edward Rosewater, Editor of The Omaha Bee

A CENTURY and a half has elapsed since Benjamin Franklin drew lightning from the clouds and transmitted electric shocks across the Delaware river, but practical harnessing of electricity dates back only threescore years. Within this comparatively brief period all races and nationalities have been brought into touch and sympathy by the electric telegraph, which has become the potential factor that gives the press its tremendous power. Within my own memory the telegraph has bridged the earth and placed its remotest parts into almost instantaneous communication. Electrical distance writing has been supplemented by electrical distance talking, distance lighting and distance propulsion.

As a pioneer telegrapher of more than thirteen years' continuous service and amateur in electric science, it has been my fortune to come in contact with a number of eminent inventors and electricians to whom the world, and especially America, is indebted for many marvelous achievements in the domain of electrical discovery and progress.

### Joseph Henry a Noted Pioneer

Most eminent, it is not the most famous, among these was Prof. Joseph Henry. My acquaintance with Prof. Henry dates back to the summer of 1862, while I was stationed as a military telegrapher at Washington. Being desirous of perfecting myself in electrical science, I procured a letter of introduction to Prof. Henry, secretary of the Smithsonian Institute, from Colonel Anson Stager, chief of the United States Military Telegraph corps, and was most cordially received by him and accorded the privilege of the Smithsonian library and laboratory. Prof. Henry was then a man of middle age, medium height, chestnut hair, blue eyes, florid complexion, clean shaven face and handsome features that were preserved by him to the advanced age of nearly fourscore years. At that time the electric telegraph was only 18 years old. The first wire across the continent had just been completed (July 4, 1862), while the first cable had been laid across the Atlantic six years previously, but remained mute, only two or three messages having been transmitted when it ceased to work.

Although Samuel F. B. Morse, then still living, had been medalized and honored by all nations as the father of the telegraph, Prof. Henry was the real father and inventor of the works inside of the watch, while Prof. Morse contributed only the case. Prof. Henry had discovered and perfected the first electro-magnet and taught Prof. Morse how to use it in connection with his crude clock-work device that registered the Morse alphabet of dots and dashes upon strips of paper. Years before Prof. Morse had conceived the idea of distance communication by electric energy Prof. Henry, as instructor in physics at Princeton college, had constructed an electric magnet that could lift 3,000 pounds and that magnet is still preserved in the Princeton college museum.

### First Weather Bureau Reports

My acquaintance with Prof. Henry extended over more than a dozen years and he freely and frequently talked about the invaluable assistance he had rendered Prof. Morse before he had taken out the telegraph patents. Prof. Henry was a pure scientist and disinclined to use his inventions and discoveries for profit. Among the precious mementoes preserved by me is an autograph letter from Prof. Henry in beautiful script dated at the Smithsonian Institute, Washington, D. C., February 29, 1864, which closes as follows:

I now embrace the first opportunity to inform you that we shall be pleased to receive any communication from you in regard to the weather with which you may favor us and we should be particularly pleased to have a record of electrical phenomena you may observe, from which a general account may be made up at the end of a given time for our annual reports.

that the United States signal corps inaugurated a system of weather reports extending across the continent.

### General Anson Stager

The most noted, all-around man among the pioneer telegraphers was Anson Stager, a native of Rochester, N. Y., who at the outbreak of the civil war was general superintendent of the Western Union Telegraph company, with headquarters at Cleveland and subsequently colonel and brevet brigadier general in command of the United States Military Telegraph corps, with headquarters in the War department, to the close of the civil war, when he was promoted to the position of vice president and general superintendent of the Western Union system, which had by that time absorbed half a dozen other systems. Anson Stager was the first telegrapher who received a message by tongue, a feat that was regarded as almost miraculous. While for many years not actually engaged in the operating room, he always retained his skill as a manipulator of the key and reader by sound. He was a short, stout man, with a large, round head, oval face, blue eyes and reddish chin whiskers, without moustache. General Stager was the incarnation of executive force—short, sharp, decisive, quick to grasp a problem and quicker still to size up a man or a situation.

When Edward Creighton, who had constructed the Pacific telegraph between Omaha and Salt Lake City in conjunction with Brigham Young, asked General Stager to recommend to him an expert operator qualified to rough it in the wild and woolly west, Colonel Stager pointed me out as a young man who could fill the bill and by way of encouragement tapped me on the shoulder and remarked: "You will be worth \$30,000 in fifteen or twenty years if you take a position with Creighton on the overland telegraph line." In those days \$30,000 was a very large fortune.

### First Telegraph Superintendent

My acquaintance with James D. Reid, the first telegraph superintendent in America, did not begin until I had passed out of the telegraph service in the '70s, but the greeting I received from him at our first meeting made me understand without explanation how and why he had obtained such a firm hold upon the affections of old-time telegraphers, and was looked up to by them as their mentor on all matters relating to the early history of the telegraph.

James D. Reid had been the intimate friend and associate of Prof. Morse in his struggles for the recognition of his claims and the establishment of his system of telegraphy and, perhaps better than any other man, was in position to write the history of the telegraph in America, which still remains the standard work among American telegraphers. He was the antithesis of Anson Stager, physically and mentally—tall, affable, genial, communicative and at all times approachable. At the age of more than fourscore he was appointed, at the instance of Andrew Carnegie, a pioneer telegrapher and countryman, to the United States consular post at Dunfermline, Scotland, where he died in the harness in 1901 at the age of 90. When the old-time telegraphers held their reunion in Omaha in 1892, James D. Reid transmitted to me the following original poem, in his own handwriting, which I still preserve.

Here's a health to you, my comrades  
 From Scotia's sea-girt shore,  
 From one who, having loved you once,  
 Will love you evermore.

This is my native land, I know,  
 And I ought to love it best,  
 But my heart beats proudest when I think  
 Of the great land of the west.

God bless you all as you meet tonight,  
 Though I be far away;  
 Let hand grasp hand and heart touch heart  
 In all you do and say.

Cheers for the art that unifies,  
 That makes the nations one;  
 Cheers for the men who wield the key  
 'Neath the all beholding sun.

And cheers for the girls who work the wires,  
 Through every land and sea:  
 I send you all love's signal,  
 My own well known "73."

### Wonders Worked by Delany

During my inspection tours of the postal telegraph systems of Europe in 1891 I spent a couple of hours in the largest telegraph office in the world, in the general postoffice building in the city of London, where more than 3,000 operators are employed in the transmission of dispatches. While most of the wires were equipped with Wheatstone instruments, several of their long-distance lines were equipped with Delany's sextuplex—an instrument that transmits six messages over one wire at the same time, or two more than Edison's famous quadruplex.

This instrument, I was informed, is an American invention, for which the British government pays a royalty of \$10,000 per annum to its inventor, Patrick Bernard Delany. When I met Mr. Delany ten years ago he had perfected a number of inventions for facilitating the transmission of dispatches by submarine cable and also an automatic telegraph system capable of transmitting from 800 to 1,200 words per minute over a single overhead wire.

Mr. Delany holds 150 patents, covering anti-induction cables, synchronous systems, but his managers decided to hold fast to the Morse system, operated in conjunction with typewriting machines. Since then I have met Mr. Delany occasionally and kept up a very interesting correspondence. Among American electrical engineers I know of none who can boast of as large a number of devices for expediting telegraphic communication.

### Wizard Edison at Home

Mr. Delany endeavored to introduce this system on the lines of chronos multiples of telegraphy, automatic systems for ocean cables, rapid machine telegraphy for land lines, etc. He is a member of the Franklin Institute, which awarded him the Elliott Creason gold medal and the John Scott legacy medal for his inventions, and at the age of 60 he is still active in his scientific researches in his laboratory at South Orange, N. J., where another and more famous telegraph operator, Thomas Edison, also makes his home and maintains his experimental laboratory.

Edison's phenomenal career is a household word all over the globe and it would be superfluous for me to indulge even in a brief recital. When I last met Edison in his laboratory at Menlo Park, which, by the way, is the greatest storehouse of books on the progress of sciences in all the languages and in materials for experimental alchemy, he was dressed in a blue blouse and cotton overalls and hard at work in making chemical tests.

He had grown stout and gray, although he still has a full head of hair, and his handsome, smooth-shaven face preserves all the appearance of middle-aged youth. While somewhat hard of hearing, Edison is a most interesting conversationalist, and he talked freely, not only about electricity, the subject always nearest to his heart, but about the progress of the country and especially the growth of western cities. When asked as to whether he had reached any conclusion as to the nature of electricity, he responded: "You know as much about it as I do." That was simply an admission that he was still in the dark notwithstanding all the electric illumination evolved by his genius.

### Inventor of the Telephone

My first introduction to Alexander Graham Bell, the inventor of the Bell telephone, took place about fifteen years ago at the residence of Gardner G. Hubbard in the city of Washington. Mr. Hubbard, the father of Mrs. Bell, had manifested deep interest in the postal telegraph and had appeared before congressional committees as an advocate of postal telegraph and appeared to be much interested in the investigation I had made of the postal telegraphs of Europe.

At first sight I was impressed by Prof. Bell's superb physique and

massive head that recalled the portraits of Balzac and the elder Dumas. He was brilliant in conversation, gracious in his manners and his recital of the story of the first telephone constructed by him for the benefit of his wife, from the lower to the upper floor of his residence, was a genuine treat.

I renewed my acquaintance with Prof. Bell when he visited Omaha a few years later and narrated publicly, for the first time, the story of his great invention before an appreciative audience of telegraph and telephone men.

### Squier's Synchronograph Experiments

In the spring of 1897, while attending the Universal Postal congress, then in session in Washington, I received an invitation from George Owen Squier, first lieutenant of artillery, U. S. A., to witness some experiments with his automatic telegraph invention at Fort Monroe. These experiments proved eminently satisfactory, although the mechanism was somewhat complex. In August of the same year I received a letter from Lieutenant Squier, dated from London, in which he wrote as follows:

"I know you will be interested in hearing of some of the great results of the synchronograph which we have recently been trying over the government postal lines in England. The British government has given us every facility possible and are entirely convinced of the superiority of our system. On August 22, over a line from London via York and Aberdeen and return to London, a distance of over 1,100 miles, including over eighty miles of underground cable, we sent messages at the rate of 4,300 words per minute and this speed was only limited by the particular dynamo available. We have also tried a cable of 120 knots, from here to Germany, and sent over it at the rate of 1,800 words per minute. Our apparatus is mounted in the general postoffice at London, from which point the experiments thus far have been made. I will be glad to send you a detailed account of these experiments as soon as time permits making it out."

When it is borne in mind that the most rapid speaker would not talk more than 250 words per minute, this achievement would seem almost incredible and forcibly calls attention to the possibilities of the future in the way of lightning communication. The fact that an army officer in the artillery service should be the inventor of such an apparatus is also most remarkable.

### Pupin at Work on Long Distance Transmission

Among the eminent electrical scientists with whom I have come in touch recently is Michael Pupin, professor of electro-mechanics in Columbia university. Prof. Pupin is an Americanized Hungarian athlete, who might have become a match for Jim Corbett. Although still on the sunny side of 50, he has made prodigious strides in the field of electricity. I visited Prof. Pupin early one morning two years ago last winter while he was at breakfast in his luxuriously furnished apartment in New York and had a very agreeable running conversation concerning certain electrical phenomena in which I had become interested and incidentally concerning some of his recent inventions, which included improvements on electrical current transmission over long-distance wires and through submarine cables, from which Prof. Pupin has realized a respectable fortune. Ordinarily a very busy man and not easily accessible, Prof. Pupin accorded me a courteous and patient hearing and freely communicated his views and impressions on the subject about which I was anxious to secure information from first source.

E. ROSEWATER.

### Wireless Telegraphy Report

The Grand Trunk road has issued a statement setting forth the tests made in wireless telegraphy to communicate with moving trains. As early as October, 1902, the Grand Trunk demonstrated the practicability of the use of wireless telegraphy for this purpose. In its first experiment a special train carrying the members of the American Association of General Passenger and Ticket Agents from Chicago to Portland was communicated with by wireless telegraphy at Dominique, Quebec. Communication was maintained for from eight to ten miles.