

GAS AND ELECTRIC NEWS

BE CAREFUL

WHILE each man is
hired to do some
particular work, the
SAFETY
of himself and fellow
men is
**VASTLY MORE
IMPORTANT**
than that work

NOVEMBER, 1912

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ROCHESTER RAILWAY AND LIGHT CO.

ROCHESTER, N. Y.

For the Information of Its Employees

GAS AND ELECTRIC NEWS

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Vol. 1

NOVEMBER, 1912

No. 7

Supplying Steam to a Big Customer

By EDWARD L. WILDER



For several years our Company has gradually been developing the business of supplying steam for heating and other purposes to customers located near Stations Nos. 2 and 3. Up to the present time no large customers have been supplied from these stations. Last spring the Company contracted to supply the State Street works and offices of the Eastman Kodak Company with all the steam required both for heating and industrial purposes. This steam is to be delivered from Station 3. The mains, as shown in Figures 1 and 2, cross below Brown's Race in an old tunnel which was formerly used as a sewer. Here they come up to within about ten feet of the street surface, extending up Factory Street, across State Street, and up Kodak Street.

Low pressure exhaust steam is to be supplied for heating purposes and high pressure steam for industrial purposes. The low pressure steam is carried in a 16-inch pipe which rests upon piers in the bottom of the tunnel. The high pressure

steam is carried in a five-inch main which is suspended from "I" beams placed in the roof of the tunnel. A 4-inch pipe is also being provided for the return of the condensed steam to our station. In order to insure reliability of service and to decrease the number of joints between pipe lengths, double lengths of pipe are being used for both the high pressure and low pressure mains. These are made by taking two pieces of pipe of standard length and welding them together.

In locating the tunnel for carrying these mains, it was necessary to go beneath the street car tracks and the water mains in State Street, and this is the reason that the tunnel is being built so far below the surface. The sides and the roof of the tunnel are constructed of concrete, the roof being reinforced with expanded metal to give it the necessary mechanical strength.

There are in general two methods of installing steam mains: one is to bury the pipes in the ground just as gas mains are laid, with the exception that the pipes are surrounded by a heat insulating covering so as to reduce the amount of heat that

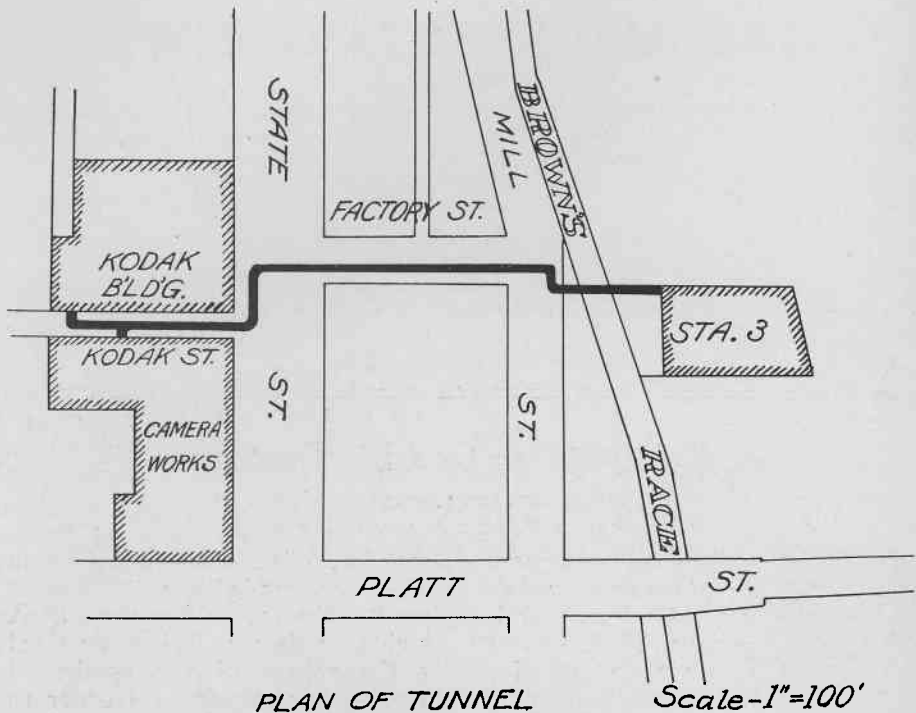


Fig. 1.—Heavy black line shows course of tunnel under Brown's Race, through Factory Street to Eastman Buildings.

will be lost from the pipes; the other method, which is the one we have adopted, is to build a tunnel and use this for carrying the mains. The advantages of the tunnel construction are that the pipes can be inspected at any time and minor re-

be taken care of by what is called a slip joint. This is in effect an arrangement whereby one piece of the pipe can slide into the next, the joint between the two being packed so that the steam cannot escape. Where there are bends in the line, the ex-

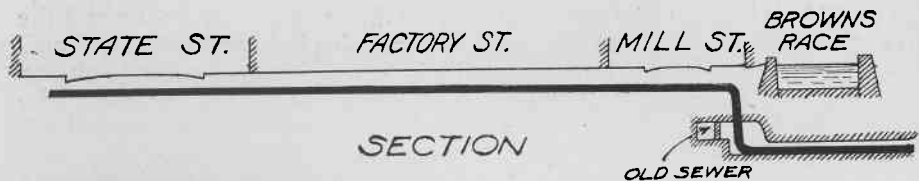


Fig. 2.—Shows clever way in which Company's engineers solved problem of using an old sewer for tunnel purposes, which saved The Company much expense for excavating.

pairs can be made or leaks stopped without the necessity of excavating.

When steam is turned into a cold pipe, every 100 feet of pipe will increase in length 1.5 inches or more, depending on how much hotter the pipe is after the steam enters than before. In a straight run this may

pansion may be taken care of by the elasticity of the pipe, the bends becoming sharper as the pipe expands. This is the simplest and best method provided the pipe is not bent so far as to injure it. Both methods of taking care of expansion are illustrated in the low pressure steam

main. The pipe is anchored at both ends of Factory Street so that branches may be put in at these points, and in the middle of Factory Street a slip joint is installed. The expansion in the remainder of this line will be taken up by the bends at State Street and at the place where the pipe drops down to pass under Brown's Race. In order that this pipe may be free to move and take care of the expansion, it is sup-

ported from the pipes as much as possible, they are covered with an insulating material. Since the loss from a steam main depends upon the difference of temperature between the main and surrounding air, and since the higher the steam pressure the hotter will be the pipe, a thicker insulation is provided for the pipe carrying the high pressure steam than for those carrying the low pressure steam or the hot water. The cover-

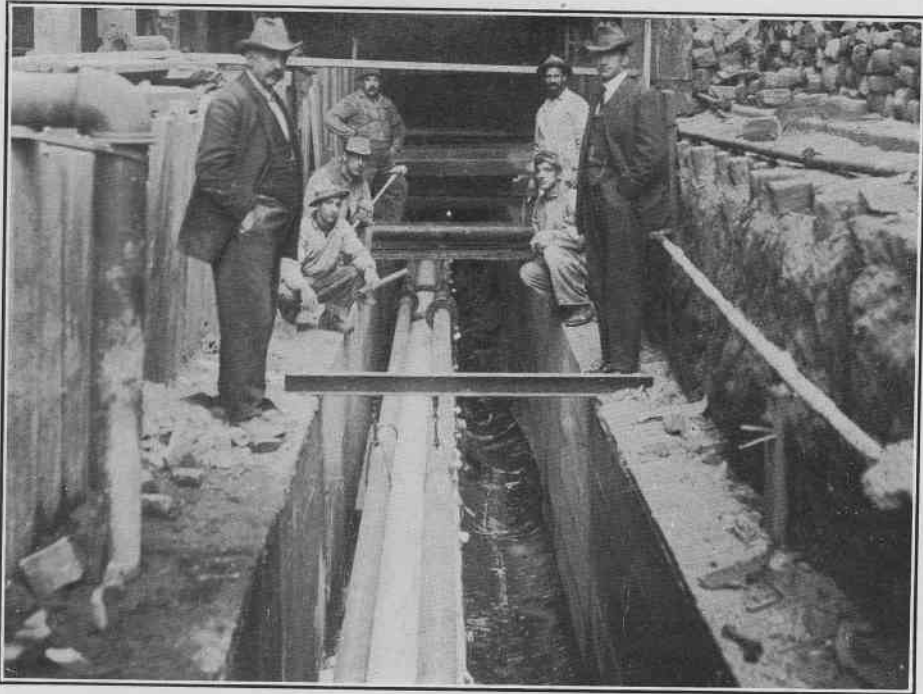


Fig. 3.—Steam mains in place just before putting roof on tunnel. The low pressure main rests on the bottom, while the high pressure main is on top to the right. The two men in the foreground are Foreman Frank Rich and Engineer Phillip Stevens.

ported by cast iron cradles which rest upon steel balls, these balls in turn resting upon flat plates. It is not necessary to provide any expansion joints for the high pressure main or the main used for returning the water, as the elasticity of the pipe is able to take care of the expansion, and these pipes are held by a flexible connection to the roof of the tunnel.

In order to decrease the heat loss

ing on the high pressure main is two inches thick, on the low pressure main 1.5 inches thick, and on the hot water return main 1 inch thick.

Figure 3 shows the tunnel with the low pressure main and part of the high pressure main in place.

You were made for enjoyment, and the world is filled with things you will enjoy unless you are too proud to be pleased by them.

The Meeting of Gas Distribution Superintendents at Chicago

By FRANK HELLEN



This meeting was held at the People's Gas Light Co. of Chicago, on September 9, 10 and 11, and the following Distribution Superintendents were represented: Mr. Simpson, of the Consolidated Co., New York City; Mr. Gould, of the Boston Gas Co., Boston, Mass.; Mr. Van Maur, of the Laclede Gas Co., St. Louis; Mr. Brown, of Milwaukee, representing the American Light & Traction Companies; Mr. Petura, representing the Dorothy Companies; Mr. Forstall, representing the U. G. I. Companies, Philadelphia; Mr. Day, of the People's Gas Light Co., Chicago, and the writer.

The object of the meeting was to review and discuss the troubles the different Gas Companies had to contend with in the winter of 1912, and see what could be done to improve the conditions so as not to have a reoccurrence of same. As last winter was the coldest winter, and the only winter of its kind in 27 years, it was the unanimous opinion that it would not pay to lay gas mains and services below the frost line, due to the extra expense.

The sessions were very interesting and instructive, for the reason that the delegates spoke candidly of the troubles experienced in their respective distribution departments, and each one gave to the others many economy wrinkles which they had adopted.

Mr. Brown, of Milwaukee, described an extra heavy two quart alcohol can that he was using with a small pump connection and a tube attachment. With this arrangement

the tube could be entered either into the service or the riser, the pressure on the alcohol allowing the gas to spray into either service or the riser, cleaning it out quickly, this process using one-half the amount of alcohol as compared with the old way. In the old method when the alcohol was poured it would run along the bottom of the service and only in some cases clean a groove through the bottom of the frost, which would soon fill up again. By spraying the alcohol under pressure the work can be done more quickly. If such a plan would cut down the amount of alcohol that we use only 25 per cent, we would save \$200 this coming winter.

All gas companies in the country have had more or less trouble where gas mains and services have been laid in filled-in ground of ashes and cinders. The old way was to dig a trench, place clean earth at the bottom around the pipes and then cover over the top with six inches or one foot of clean earth. The Chicago Gas Company, after going to some expensive tests, found that the pipes in this case deteriorated much faster than where they were laid in clear cinders and filled in and around on top with clear cinders or ashes. This trouble was due to seepage water soaking through the cinders and ashes, the earth holding the water around the pipe. When earth was not used the water soaked through the cinders quickly.

The New York City company last winter used denatured alcohol, and claim to have saved about 33 1-3 per cent in dollars and cents over the use of wood alcohol. If this can be accomplished, together with the use

of the Milwaukee spraying device, we would save \$400 per year.

I visited the meter shop in Chicago, and found in use a machine made at an expense of about \$500 to be used for dipping meters; that is, injecting the oil. It is an automatic machine that works with great speed, and takes up but a small amount of shop room. If it accomplishes what I believe it does, it would save our Company \$100 for labor in one year.

An interesting matter brought out by Mr. Day of the Chicago Company was that all new men employed in the manufacturing and distribution departments of his Company had to pass a rigid examination as to their sense of smell. No one was

put to work who could not pass this examination, as the company believes this regulation prevents a great many accidents.

Many other interesting subjects were brought up at the sessions that are not mentioned in this report. The meetings were so interesting and profitable to all that superintendents present were more than pleased with them. Mr. Williams, Vice-President of the People's Gas Light & Coke Co., Chicago, stated that it was his wish that similar meetings should be held once a year or oftener, so we can get together, secure useful information and otherwise discuss matters that could not well be put into letters. I believe hereafter that such meetings will be held once a year.

Secretary to General Safety Committee

At a meeting of the General Safety Committee, held Thursday, October 24, Mr. Russell, who is chairman of that committee, announced that Mr. Victor T. Noonan, editor of the Company's magazine, had been appointed to act as Secretary to the committee. As Secretary, Mr. Noonan will accompany all the sub-committees on their inspection trips. He will also keep in touch with the work which other companies are doing

elsewhere to prevent accidents and keep the General Safety Committee informed of such work. For the benefit of all employees various topics and suggestions regarding accident prevention will be published in GAS AND ELECTRIC NEWS from month to month. Chairmen of sub-committees are kindly requested to keep Mr. Noonan posted as to the dates they plan to make their inspections, so that he may accompany them.

Give us the man who loves his work. His is the spirit that conquers obstacles, that subdues opposition, that opens new fields to the hand of man. He is the forerunner of Achievement. He uses the small task as a means to fit himself for the larger deed. He accepts the larger deed as a token of the greater opportunity. He is ever unsatisfied. His is the healthy unrest in whose wake cometh growth. He is a Hearer of Progress—an Apostle of Accomplishment. He is one to be cherished by the world. Give us the man who loves his work!

Improved Street Lighting

By THOMAS H. YAWGER

From Notes and Illustrations Submitted by Mr. Yawger to Electrical World.



The rapid introduction of the tungsten incandescent lamp for interior lighting has resulted in the education of the general public toward higher standards of illumination. In a remarkably short space of time this desire for more light has also left its impress on public officials, and central stations throughout the country have been kept busy changing older forms of lamps for improved ones and increasing the illumination in certain other sections. This transition period in public lighting has by no means run its course, and the past four years have witnessed more changes on public highways than the preceding decade.

This city is one of the many which are keeping pace with the insistent demands for more and better light on highways. During the past few years our Company has given considerable thought to the problem of street lighting, in its desire to meet the wishes of the city officials and at the same time install units which are not likely to be rapidly superseded. Chasteness of design being necessary in any system erected with an eye to permanency, this phase of the public lighting business has had mature consideration. This is a city of homes and beautiful streets, and our Company, not less than the residents themselves, takes a commendable pride in the appearance of the "Flower City's" thoroughfares. The illustrations herewith show some of the more recent street-lighting installations.

Figs. 1 and 2 show in detail and in vista the new concrete posts with bronze top erected on Warwick Ave-

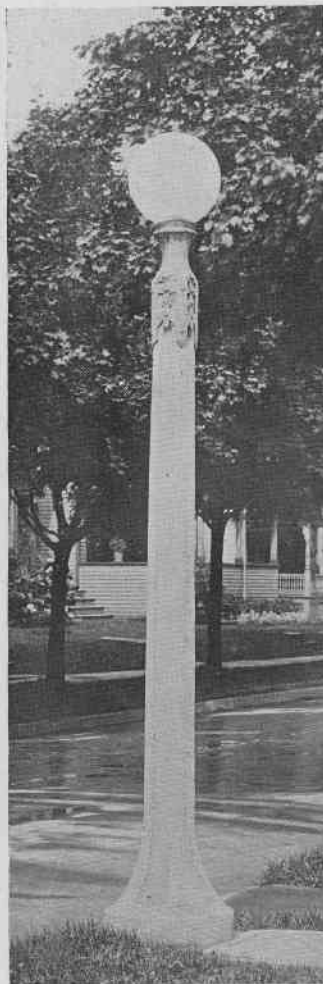


Fig. 1. A near view of one of the new concrete standards.

nue. The bronze top supports a 16-in. rough inside globe inclosing a 60 cp, 4-amp series tungsten lamp. The



Fig. 2. Concrete Tungsten Standards and Cast-Iron Luminous-Arc Posts on Warwick Avenue.

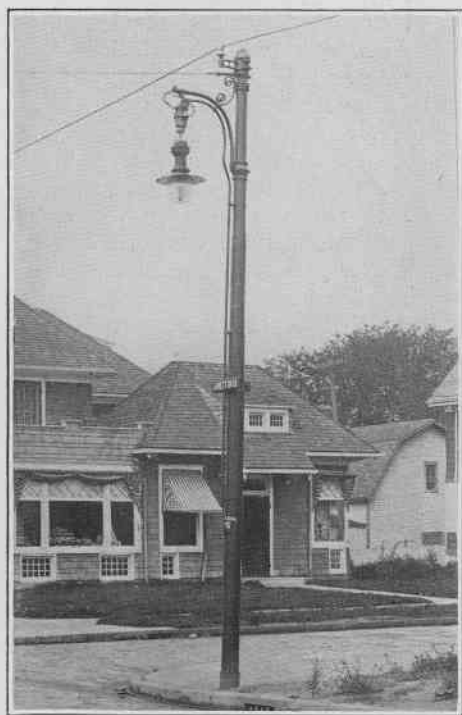


Fig. 3. Combination Arc and Trolley Post.

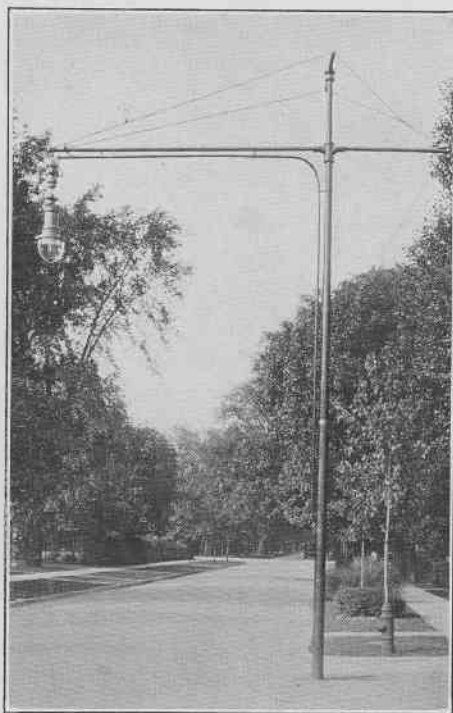


Fig. 4. Mast-Arm Pole for Shaded Streets.

posts are scrubbed and the panels bush-hammered, so that their appearance is very pleasing, the poles looking as though they had been

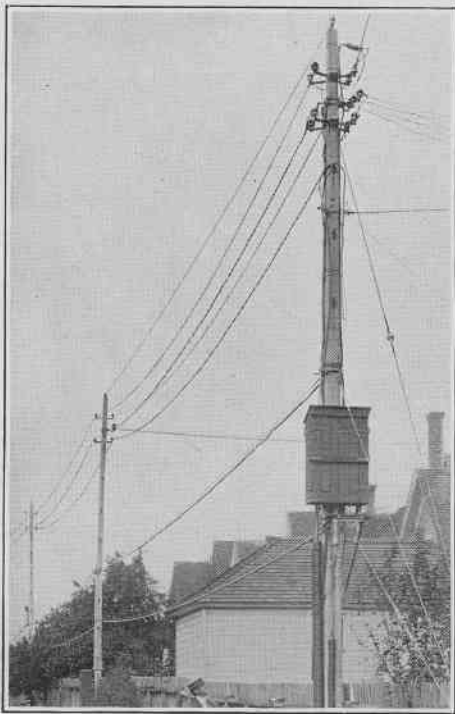


Fig. 5. Back-Yard Distribution System.

chiseled out of a piece of granite. On practically all of the residential streets there are demands for this

type of lighting, and the policy of the Company is to install posts of this design wherever there are existing overhead wires and wooden poles. The additional revenue received for a lamp fed from underground circuits is sufficient to carry the extra investment necessary.

Fig. 3 shows a new design of post on Arnett Boulevard, which serves to support the trolley wires as well as the arc lamp. In the judgment of competent critics, this design is not too ornate and its use has been attended with much satisfaction. A steel post supporting an arc lamp by means of a crane arm 12 feet long, as used on Dartmouth Street, is shown in Fig. 4. This type of post is very effective on streets where the shade trees are dense.

With its present facilities, our Company cannot keep up with the demand for rear-lot line construction involving the use of concrete poles. Fig. 5 shows a type of installation of concrete pole for rival telephone circuits, series arc circuits and secondary service feeders. These poles are erected on every other lot, permitting both telephone and electric light wires to run to the four adjoining lots without necessitating the crossing of any property but that served. During the past twelve months the Company has installed practically 1500 of these poles.

A Gentleman

A man that's clean inside and out; who neither looks up to the rich nor down to the poor; who can lose without squealing and who can win without bragging; who is considerate of women, children and old people; who is too brave to lie, too generous to cheat, and who takes his share of the world and lets other people have theirs.

The Man Who Handles the Money

By R. L. DAVIS



The Cashier's Department handles all moneys received by the Company, from the large power bills of the New York State Railways to the sale of a bray burner at the lamp counter, or the payment of a monthly bill of the city for street lighting, to the quarter taken from a prepaid meter. The immense amount of work required to handle the monthly receipts of the Company may be easily estimated if you will stop and consider the number of accounts carried on the various ledgers, viz: gas 57,000, electricity 10,000, appliance 8,000. This makes a total of 75,000 accounts. The great majority of these accounts are paid practically within one week's time, making a vast amount of checks and currency to be received and bills receipted. That does not end the work, for all these must be properly prepared, the currency done up in packages and the checks endorsed, for depositing in the bank. Starting from the first of the month the amount of receipts gradually increases until the 15th, when the number of bills paid is enormous, reaching nearly 20,000 in one day. The average receipts for the 15th vary from \$40,000 to \$60,000, but the high water mark was reached January 15th, this year, when the receipts amounted to \$99,779.91.

The bulk of this work is handled by the Cashier and Assistant Cashier, but for a week before discount day additional receivers are called into service, being drawn from the Meter Reading and Collection Departments. As many as ten receivers have been taking in money at

one time besides two clerks working on checks received through the mail. The rapid growth of the city and the extension of both gas and electric service to the suburban districts will probably necessitate an abandonment of the one discount day a month idea. Plans are now being considered which will provide for a number of discount periods, thus distributing equally over the month the work which is now done in two or three days. Before leaving the subject of receipts it may be of interest to state that out of prepaid meters there is collected every day from 2,000 to 5,000 quarters, representing the sale of from 526,000 to 1,315,000 feet of gas.

In addition to receiving moneys, the Cashier's Department pays all refunds, express charges, refunded deposits, wages paid in advance of regular pay day for employees leaving the service, and all small incidental expenses. In order not to confuse these expenditures with the day's receipts, a fund is allowed the Cashier for handling such incidentals. This is replenished from time to time by vouchering the various items, passing them through the Auditor's and Treasurer's Departments which in turn reimburses the Cashier's office with check. Contrary to the general belief, this fund cannot be used by employees to replenish their personal cash balances.

Since January 1st several changes have been made in this department, the Cashier's cages being separated from the rear office by a wooden partition, new receipting and change machines installed, a new fire and burglar proof safe added, making the Cashier's equipment thoroughly up to date in every respect.

Telephone Service

By MISS ELMA PRUETER



When I became telephone operator for this Company nine years ago, only one telephone switchboard was in operation—The Home—which had two central lines and twenty local lines. About three years later a Bell switchboard was installed with the same number of lines. The installation of telephones has gradually increased, so that now there are fifty local and six central lines on the Home, and fifty-nine local and six central lines on the Bell. It has become necessary to install a larger Home switchboard with space for about fifty more lines. To operate these switchboards requires the services of two day operators, one relief operator, and three night operators who work alternately.

It may be interesting to the reader to know how these switchboards are operated. When the calling party removes the receiver from the hook a light appears on the switchboard. The call is answered by inserting an answering plug in the jack below the light, the corresponding plug making the connection. The disconnect light on the line of the party you are calling will remain lighted until the party you are calling has answered. When both parties have finished talking both disconnect signals appear.

Between fifteen hundred and two thousand calls are answered each day during business hours. The night operators do not receive as many calls but take care of all gas and electric troubles and refer them to their respective departments.

A difficult problem for day operators is to receive from patrons of

our Company correct information in regard to the nature of the business they wish to transact. The following incident will serve to illustrate: A call was recently received for the gas works; upon making the connection it was found the party wished to report a gas leak. Customers blame operators for occurrences of this kind. This is just one of the many incidents which occur throughout the day.

It is the operators' aim to give the best service possible. In order to do this we must have the co-operation of every employee who uses the 'phone. Accordingly a few suggestions may aid the operators very much:

1. Keep the operators promptly informed of all changes or transfers of employees from one department to another. We very often make wrong connections, causing a loss of time, through failure to do this.
2. Answer the 'phone promptly—there may be two or three parties wanting to get you at the same time.
3. Keep operators informed of your correct residence telephone number.
4. When making more than one call, hang up receiver between each call—do not shake the hook rapidly as in doing this the disconnect signal does not work.

Your observance of above suggestions will greatly facilitate the Company's telephone service. For your information the following are our telephone operators:

Day operators: Home, Miss Elma Prueter; Bell, Miss May Whyley.

Night operators: Mr. Leslie Freeman, Mr. Harold Smith, Mr. George Hutchingson.

Relief operator: Miss Irene McDermott.

Some of Our Veteran Workers



THOMAS NOLAN.
Gas Shop—31 Years' Service.



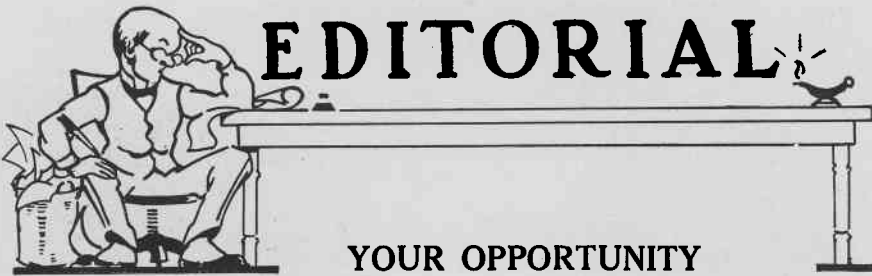
FRANK KEHOE.
Line Dept.—28 Years' Service.



ANDREW M'INTOSH.
Line Dept.—28 Years' Service.



JOSEPH LONERGAN.
Line Dept.—21 Years' Service.



Almost invariably, opportunity comes to us clothed in the husk of responsibility and the fact that it generally requires more than ordinary mental and physical exertion to absorb the husk is the reason why so many of us fail to get to the coveted kernel—Opportunity.

If we knew the husk contained our opportunity we would have put forth the extra mental and physical energy necessary to remove it, of course, but we didn't know it, and thereby hangs a tale for most of us. The trouble is, fellows, that we expect opportunity to come to us duly tagged and with a special delivery stamp affixed. Even then we might not accept the package because it didn't look big enough to contain a big opportunity. But the fact is, opportunity doesn't come tagged; therefore we can't afford to pass up a single responsibility that comes our way, no matter how small for fear that the very smallest one may contain the germ of a big opportunity. How often have seemingly small responsibilities been passed along by men who yearned for "big things" to the fellow, and there is always such a fellow who hungers

for responsibilities large or small and who thrives upon them so well that he forges ahead in the race for advancement while we stand by and wonder at what we are pleased to call the hungry one's luck. But is it luck? Not much! We have simply fed our opportunities to one more wide awake and we have been stone blind to the fact, that's all. But even that should not discourage us. We never did take any stock in the fellow who said "opportunity knocks but once." If that were true most of us would be in a sorry plight and charity would counsel silence. We don't believe it however. We believe that the blindness from which we have suffered is not incurable. We believe that sight will be restored to us the moment we determine to accept our responsibilities, both great and small, and discharge them to the best of our ability.

Let us then so determine. There are still opportunities, millions of them, open to those who persevere. Never mind the fellow who said opportunity knocks but once. Let us line up with the fellow who said, "If at first you don't succeed try, try again."

CARELESSNESS THE CAUSE

According to statistics 60 per cent of all accidents are preventable. Facts prove that most if not all accidents are due to carelessness, not some extraordinary form of carelessness, but plain, every day carelessness,—absence of mind, thoughtlessness, neglect or anything else you may like to call it. It follows, therefore, that the best way to prevent accidents is to exercise care and rigidly observe the rules laid down for the correct performance of daily duties.

Day after day the public press records the sad and terrible accidents which have been caused by carelessness. Such accidents are not confined merely to the workshops of the country, for the injured victims of carelessness are to be found in the home, in the school, on the farm, on the streets, on the speeding train or the great ocean liner.

Only a few months ago the world's most wonderful ship went to the bottom of the Atlantic with a cargo of precious human lives. Just one simple, little word tells the cause of that awful disaster—carelessness. Recently the engineer of a fast express wrecked his train, lost his own life and the lives of some of his passengers. And the cause? He disobeyed one of the speed regulations of his road.

Investigation along this same line shows too that some of the biggest fires have all been traceable to criminal carelessness—a burning match

thrown on the floor, or a lighted cigarette or cigar butt thrown into a waste paper basket.

There is no excuse for such carelessness. A lineman who approaches the deadly current without being properly protected by safety belt, rubber gloves and conductor shields is guilty of insane carelessness. He shows absolute disregard not only for his own welfare, but the welfare of those dear to him.

Prevention is more desirable than compensation. Is there any compensation, no matter how big, that can purchase a new arm, leg, eye or even give an added year of life? And what about those who are left behind? What compensation can comfort the heart of a mother and her fatherless ones? None!

Therefore exercise care. Concentrate your mind on the work you have to do.

IF YOU HAVE TO WORK
NEAR DANGER BE CAREFUL
TO OBEY THE PRECAUTIONS
AND REGULATIONS LAID
DOWN FOR YOUR PROTECTION.

The man who is careful carries the best kind of insurance against needless accident.

Easy problems are never worth solution. Great rewards are always bought by terrific effort. Little men achieve only little things.

A WORD OF APPRECIATION

With this issue, GAS AND ELECTRIC NEWS begins the seventh month of its existence, and it is gratifying to note the strong hold which our little publication has taken on the hearts of its readers—our fellow-workers in this great organization. From one and all of our Company's employees we have heard nothing but words of praise for this magazine. Each month its coming is eagerly awaited by its little family of readers, and if it is a day or two late we receive an avalanche of complaints from every department of our Company, which proves that the magazine has got the right grip on its ten hundred odd readers.

It pleases us also at this time to refer once again to the splendid co-operation which we are receiving each month from all our fellow workers. Our work for the magazine necessarily brings us in touch with many employees in the various departments, and all along the ranks we are given a cheerful, courteous and helpful response. WE CAN HAVE NO BETTER PROOF OF THE SPLENDID SPIRIT OF CO-OPERATION WHICH PREVAILS IN OUR ORGANIZATION THAN THE KINDLY, HELPFUL ATTITUDE WHICH IS SHOWN TO THIS MAGAZINE FROM THE DEPARTMENT HEADS DOWN TO THE HUMBLEST EMPLOYEES.

Our aim is to make this, your magazine, the best of its kind. We want to be at the very head of the proces-

sion, and to reach that laudable place your loyal co-operation is necessary.

All together then let us hitch our ambition to a star and march onward and upward, each one ambitious to do his best in the work appointed to him. If we are all united and loyal to the interests of our organization, and if, like brothers, we are helping one another in the battle of life what a noble influence ours will be in the community. Let our magazine be the medium for these and better things.

Having unburdened these few thoughts we wish now to express thanks, not only to contributing editors, but also to the heads and foremen of departments for their co-operation. We are also particularly grateful to many fellow workers who keep us "posted" on news items of interest to our readers.

No good cause and no good man has ever escaped the jeers, ridicule and mockery of men.

The General Superintendent of the Lake Shore Railroad, the other day, said that he never allows an engineer to take an engine out who is in an unhappy frame of mind. If the man has domestic trouble, they just pity him and suggest that he get another job. The fellow who is pre-occupied, thinking of himself and of his troubles, is not the man that you want to trust your life with. The safe man is the happy man—the one with a contented mind.

SUGGESTIONS FROM THE MANAGEMENT

Avoid Splashing Mud and Water

A number of complaints have been received lately that some of the Company's trucks, when driven fast, have been the cause of splashing mud and water on the garments of persons waiting for street cars at certain crowded corners.

It is the wish of the Management that all of the Company's drivers should bring their trucks and vehicles to a stop when approaching a crossing or street corner where there is mud or water, and where persons are waiting for the cars.

When on the Other Man's Property

When employees from the Line, Underground, or Gas Street Departments are requested by property owners to leave their grounds, our employees should do so at once. If any explanation for being on the grounds is necessary it should be made in a courteous manner as befits representatives of this Company.

Sometimes it is necessary for our employees to enter property in order to install a service on the adjoining property. If the property owner refuses to grant that favor our employees are requested to obey his wishes, and then report the matter to their foreman or department head.

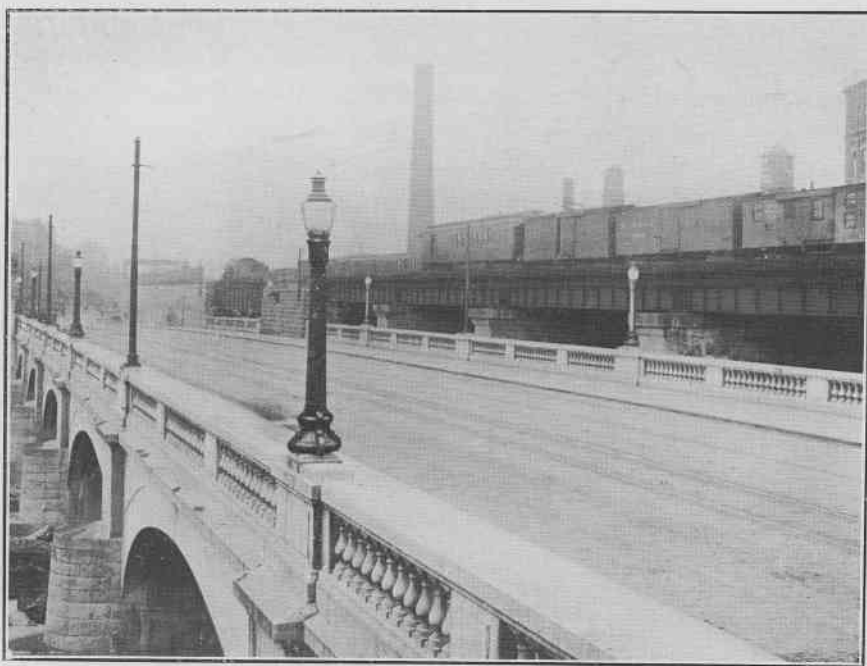
Arguments Don't Help

It is the desire of the Management also, that under no circumstances must the Company's drivers carry on an argument with drivers of other trucks or wagons. If the argument concerns a serious matter the discussion must be stopped by our drivers, who are requested to report same to the foreman of their department, where it will receive proper attention.

A Beautifully Illuminated Birdge

The accompanying illustration shows the arrangement of the new cast-iron standards for supporting the inverted luminous 6.6 amp. magnetite arc lamps which have just been installed on the beautiful new Central Avenue bridge. These lights are the same as those installed on East Avenue and which were fully described by Mr. Montignani in last

Where the bridge and New York Central viaduct abutments merge there was no room for either pole or post, so a bracket was designed. This bracket is bolted on the abutment at the same height as the other lamps, its design harmonizing with the other bridge standards. On the east end of the bridge there is a building where the same conditions



An Ornament to the City.

month's issue of this magazine.

The lamp standards have an ornamental cast iron base bolted to a plate on top of the concrete pier. The support for the lamp casing and head consists of six bolts five feet in length which fasten the base and head. Over these bolts there is placed a pressed copper casing designed similar to a fluted Doric column.

exist, and a similar bracket has also been installed there. The bridge carries 24 of our Company's power ducts, with room for 24 more; also a two-inch steam line for supplying heat to No. 4 Station.

The structure is about 300 feet in length and about 80 feet in breadth. When illuminated at night the bridge presents a very attractive sight, and attracts attention from

the New York Central trains. Without a doubt Central Avenue bridge is one of the most artistic structures of its kind in the country. It is also one of the best and most beautifully illuminated bridges to be found anywhere. Its general design and illumination reflects much credit to the city of Rochester.

Since the above lights were installed on the bridge, our Company

has received an order from the City Engineer's Department to complete the installation of the new lights from State Street to St. Paul Street, all of which will go a long way towards making Central Avenue an attractive and ornamental approach to the new station of the New York Central, which is fast nearing completion.

Electricity a Friend of the Birds

It is evident that electricity affords some fascination to birds. A while ago some birds built a nest in the choke coils on the 60,000-volt line just outside of Station 33. Very often one sees a nest resting on a cross arm, snugly placed between a pole and a big railway feeder. Some birds build their nests under the large insulators on the high tension lines.

Two up-to-date robins have shown their liking for electric hoists. Whitmore, Rauber & Vicinus are using a large electric hoist to operate the excavating machine on their Summer-ville Boulevard sewer contract. The hoist is inside of a gable-roofed building. One day the birds inspected the contract and, on finding the work done electrically, built a nest on the outside roof-tie-beam so that they could both note the progress of the work and watch the electric hoist. Although the nest is but eight feet above the floor and very close to the engineer and machinery, the occupants are not the least bit disturbed—no, not even when the machinery is running full speed and the cables are whipping on the sewer work.

Various opinions have been offered as to the reason for birds building their homes in such an unusual place to rear their young. Some

think that the robins know the kindly disposition of Johnnie Rauber and expect that he will send them a bucket of fresh juicy worms every morning, delivered by his electric driven machinery.

Others believe that the birds knew that the engineer was the best natured and huskiest man on the job and that being within his sight they would be well protected.

It is quite possible that these very birds or their parents once had a nest located near some electrical conductors or machinery, and that they were aware of the many benefits accruing from such acquaintanceship.

We take off our hats to the engineer and Mr. Rauber for we know that the birds will have ample protection and a bucket of worms every day. But somebody asks, "Suppose Mr. Rauber had used a steam operated excavating machine?"

We know that robins are discriminating and that they would never settle down in an atmosphere laden with smoke, steam, and dust. They would not care to ruin their plumage or injure their health. Mr. and Mrs. Robin are to be congratulated on finding such a desirable home, free from fire and explosion, with a fine view never obstructed by smoke or steam, and with neither coal or ash dust to bother them.

ELECTRIC DEPARTMENT



The new 6-inch steam line at No. 2 Station has been tested out, and found O. K.

There are now 18,376 electric light poles in the city, of which 3,799 are on rear lots.

Twelve concrete poles and lights are to be installed at the entrance to the driveway at Iola Sanitarium.

Frank Rich has completed the new tunnel in Factory Street and we hereby congratulate Frank on a difficult job well done.

A new roof is being built over the spillway at No. 2 Station. When completed the roof will be more than 90 feet above the ground.

Mr. Lanney and his men completed a quick job installing the new sixty-ton rotary converter at No. 6 Station; in fact they made a record.

The Erie Railroad has placed a big electric sign over the Court Street station. It shows the word "Erie," and can be seen from a considerable distance.

Asa B. Morse has returned to work fully recovered from his recent illness. Asa is one of our oldest employees and we are mighty glad to welcome him back.

Our readers will be pleased to know that the new lights on East Avenue, which have attracted so

much favorable attention, are shortly to be installed on Main Street.

Boiler Inspector J. J. Seeley paid a visit to No. 2 Station on October 15th. He made an external examination of the eleven boilers at the station and declared himself well satisfied with their condition.

President O. M. Curtis, of the Northern Wayne Electric Light and Power Co., held a conference with our Company October 21st with a view of additional power extensions in the Northern Wayne Company.

George B. Swarthout, of the Underground Department, and Miss Barbara J. Popp were married Tuesday, October 1. The young couple are now at home at No. 44 Broadway, where they will be glad to see their friends. Congratulations George!

Like a postage stamp, a man's ability depends on his ability to stick to a thing until he gets there.

The best men are not those who have waited for chance but who have taken it, besieged the chance, conquered the chance and made chance a servitor.

Few people, rich or poor, make the most of what they possess. In their anxiety to increase the amount of means for future enjoyment, they are too apt to lose sight of their capability for the present.



Mr. Parker Gives Clever Talk Before N. E. L. A.

One of the most instructive sessions of company section N. E. L. A. which it has been our privilege to attend was held Tuesday evening, October 8th, in the Directors' room, Clinton Street offices, President Haftenkamp presiding. The star feature of the meeting was a mighty fine ten minute talk by Mr. J. C. Parker on "Alternators." These ten minute talks which are now given every month are delivered as far as possible without technical phraseology. Mr. Parker has the happy faculty of explaining his subject in such a practical and simple way that all can readily understand him.

The talk was illustrated on the stereopticon by Mr. Defenbaugh. Mr. Taylor rigged up a model of an alternator, which Mr. Parker used to demonstrate the operation of one of the big alternators. Following the address there was a very lively discussion in which Messrs. Lundgaard, Miller, Putnam and Parker took part.

The following is a brief syllabus of Mr. Parker's talk:

A magnet gives rise to a magnetic field, consisting of *so-called* lines of force going out from the north pole around through the air into the south pole.

An alternator consists of such a magnet rotating inside a coil or coils of wire, so that the lines of force from the magnet will cut the coils of wire.

When the coils of wire are most rapidly cut by the lines of force from the mag-

net, the most voltage is generated in the wire.

When the rate of cutting is zero, no voltage is produced.

The direction of the voltage depends on the direction of cutting and the sign polarity or sense of the lines of the force.

With a constant rotation of the magnet, the voltage is zero when the magnet is perpendicular to the coil; rises to its greatest value when the magnet is in the plane of the coil; drops to zero again when the magnet is again perpendicular to the plane of the coil; and reaches a maximum in the opposite sense when the magnet again lies in the plane of the coil.

When the lines of force from a magnet cut successively several coils of wire placed at different angles to one another, the voltage in these coils becomes zero, rises, becomes zero again, and reverses at times so much later than one another as to allow the magnet to reach the successive coils.

This difference in time of the similar operations in successive coils is known as phase difference, and the angle between the coils is the angle of phase difference.

When two coils are placed at right angles, we have a 2-phase alternator. When three coils are placed one-third of a revolution apart, we have a 3-phase alternator.

The various phases of operation in a 3-phase circuit are analogous to the movements of the piston of a triple expansion engine.

The prevention of accidents was the subject of a profitable discussion which was opened up by Mr. Hutchings at the Friday morning meeting, October 4th. Mr. Hutchings as a member of the Accident Prevention Committee of the Chamber of Com-

merce would be glad to get some suggestions on the prevention of accidents.

Mr. Morphy drew attention to the number of accidents to employees caused by nails left carelessly on the floors of new houses.

Mr. Hutchings recommended that Mr. Morphy write to contractors where such accidents have occurred, drawing attention to the danger of leaving nails on the floors. Such accidents ought to be prevented by agitation.

Mr. Durfee described a machine for picking up nails which had been used with considerable success in the Front Street yards. That machine was simply an experiment to demonstrate the possibility of picking up nails by means of an electric magnet.

Mr. Hutchings presided at the meeting October 11th. Mr. Parker said that Secretary Kennedy, of the Public Service Commission had just recently complimented our Company for the way it handled complaints, and frequently advised other companies to come to Rochester and see how this Company handled the complaint problem.

Mr. Hutchings, commenting on the present traffic ordinance, said there was a defect in it regarding protection of pedestrians. The traffic officer had power, he said, to wave his hand and stop vehicles, but seemed to have no control over pedestrians. The result is a driver or chauffeur has to pick his way through a crowd of foot passengers. This was a matter which Mr. Hutchings thought could be easily remedied by proper legislation covering such points as the protection of pedestrians.

Mr. Pratt said that the ordinance requiring wagons to carry red lights was being constantly violated. It

was suggested that the matter be brought to the attention of Mr. Van Tuyle of the Automobile Club.

Mr. MacSweeney gave an interesting account of the Empire State Gas and Electric Convention which he attended in New York on October 9th.

As a result of a discussion at the meeting October 25th, Mr. Yawger presiding, it was suggested that when employees find it necessary to 'phone orders for supplies to the storehouse they should give the store all the information necessary. Such information should include what supplies are to go, whether to be charged to the Company, and the name of party and department from which the order comes. This verbal information should be followed by the necessary requisition. Neglect of these requirements means delay in sending out the supplies.

Mr. Parker gave a very clear explanation of the new electric rates which went into effect November 1. These will be fully outlined for our readers in a coming issue of the magazine.

Fortune always leaves some door open in disaster, whereby we may come at a remedy.

Ignore your faults by ceasing to mention them. Thus you may have leisure to cultivate your good qualities.

The door of Success is only just ahead of you, but you will have to present the admission card that reads "Made Good."

When looking for the good qualities of your friends always remember that even the finest grade of wheat has to be separated from the chaff.



Be a nailer, not a knocker.

It is tiresome to talk to people who always agree with us.

Human welfare is the only true basis of business prosperity.

You can never tell how deep the well is by the pump handle.

Every dog has his day, and too many of them have their nights also.

The knocker puts more nails in his own coffin than the undertaker.

Do your best in every emergency and don't waste time worrying over results.

The rich are known by their dollars, but the humble onion is known by its scent.

The hen does as much scratching when she has one chicken as when she has a dozen.

Enthusiasm is the oil that makes the wheels go round; a grouch is sand in the bearings.

Somebody has said that a dog with no teeth has a soft snap. We rather think he has no snap at all.

It is easier to climb down a tree than to climb up, which explains why the top is never crowded.

Hot water is good for swellings—and the man with a swelled head is sure to get into it sooner or later.

If you don't feel like smiling and showing kindness, do these things anyway. They help the general game along.

There is a certain philosophy of life which is like an old fashioned bicycle: it goes well on the level and down hill and over good roads, but with the uphill and the mud, one must needs get off and push.

If you have a plan that has gone wrong, try another and still another until finally you find the plan that fits YOU.

Only a pessimist will sit by the roadside, waiting for a chance to ride on the road to affluence. The optimist wastes no time waiting for a "lift" but starts out on foot.

Fate is a coward. If it hits you a rap it's a bluff. Grin, even if the first grin is a bluff on your part. After a little the grin will really bubble up from the inside.

King Solomon and King David
Were merry kings of old,
And 'bout their curious fancies
Full many a story's told.
But when old age o'ertook them
With its many, many qualms,
King Solomon wrote the Proverbs,
King David wrote the Psalms.

NEW GAS HOLDER WILL BE ONE OF THE LARGEST IN COUNTRY

Mr. Russell announces that plans have just been completed for the erection of a new gas storage tank with a capacity of six million cubic feet. When completed the new holder will be the largest in this state outside New York City and one of the largest in the country. It will be 217 feet high with a diameter of 220 feet. The contract has been awarded to the Bartlett Hayward Company of Baltimore, the cost being estimated at about \$335,000. The construction of the tank will

take twelve months.

The new holder has become necessary owing to the rapid growth of the gas business in this city. The contract which has just been awarded is in line with the general policy of this Company to give consumers of the city not only ample protection, but the best service possible.

When completed the big tank will hold sufficient gas to supply the city of Rochester for 24 hours in case of any tie-up in the regular service from the gas works.

A Word About the Flower Show

The third Rochester flower show, which opened in Convention Hall Tuesday afternoon, to continue morning, afternoon and night through the remainder of the week, is a convincing proof that this is indeed the Flower City, and the splendid attendance makes unmistakable the fact that this is a city of flower lovers.

A most beautiful and entrancing scene, with quiet nooks, walks and lawns, shrubbery and trees as a setting in which are placed a profusion of flowers of loveliness and rarity, intoxicates the senses. Band music in Convention Hall proper and the Ladies' Orchestra in the annex add

to the charm. The show is considered far superior to its predecessors of 1910 and 1909, which means that it is the most ambitious and best of its kind ever given in the country.

President John Dunbar, of the Florists' Association, and C. H. Vick, chairman of the general committee, as well as each florist, nurseryman and gardener participating, are to be congratulated. Vice-President R. M. Searle, Mr. John G. Parker and Mr. Joseph P. MacSweeney, of our Company, are members of the general committee and serve also on sub-committees, and in enthusiasm for the flower show have been second to none.

We trust that many of our readers will make an effort to see the flower show before Saturday. It is well worth a visit.

It's generally the fellow who doesn't know any better who does the thing that can't be done. You see, the blamed fool doesn't know it can't be done, so he goes ahead and does it.



AMONG OUR EXCHANGES

Magazines Received

Among a number of publications received we beg to acknowledge with thanks the following:

Pacific Gas and Electric Magazine, San Francisco; Edison Round Table, N. E. L. A., Chicago; Gas Institute News, New York City; Edison Life, Boston; West Penn. (Pa.) Bulletin; Baltimore Gas and Electric News; National Commercial Gas Association Bulletin, Easton, Pa.; Edison Monthly, New York City; Rochester Advertising Life, and the Buffalo, Rochester and Pittsburg Railroad Magazine.

OUR MAGAZINE MAKES FRIENDS

Raymond H. Arnot,
Attorney and Counsellor at Law,
Rochester, N. Y.,
October 12, 1912.

Mr. Victor T. Noonan,
Rochester Railway & Light Co.,
Rochester, N. Y.

Dear Sir—I am very grateful to you for your kindness and consideration in sending me a copy of the October number of the Gas and Electric News. This little magazine is so interesting and instructive that I wish it were obtainable on the news stands so that I might read it monthly.

I was greatly interested in Mr. Montignani's admirable and clearly written article in explanation of the magnetite lights on East Avenue. I had previously read an article by Professor Steinmetz of Schenectady dealing with flame and luminous arc lights, but with all deference to that great master of electrical science I must confess that Mr. Montignani's article gave me a clearer idea of the subject under discussion than did Professor Steinmetz's.

Permit me also to add that Mr. Eaton's article as well as Mr. Yawger's are excellent.

Again thanking you for your kindness in sending the magazine, I am,

Very truly yours,
RAYMOND H. ARNOT.

New York Editor Pleased

The Publishers' Guide,
117 East 24th Street,
New York City,
October 10, 1912.

Victor T. Noonan,
Editor Gas and Electric News,

My Dear Mr. Noonan—My congratulations on the editorial and mechanical excellence of your magazine for October. I can tell good magazine work and you certainly have achieved that.

Wishing you continued success, I am,

Yours very truly,
FRED. B. APPEGET,
Managing Editor.

Toronto Wants It.

The Consumers' Gas Co.,
Toronto.

Victor T. Noonan,
Rochester Railway & Light Co.,
Rochester, N. Y.

Dear Sir—A copy of your new publication, "Gas and Electric News," has come into my hands, and I write to congratulate you and your associates upon it.

If not troubling you too much, I would esteem it a favor to be placed on your mailing list for future issues. I am,

Yours very truly,
ARTHUR HEWITT,
General Manager.

Liked Mr. Montignani's Article

A man came into our office a few days ago and said that he had accidentally picked up last month's copy of Gas and Electric News while riding on a street car. He was so well pleased with it that he came to the Clinton Street offices, left his name and address, and made a request to get a copy of the magazine each month.

This interested visitor said he was much impressed with Mr. Montignani's clever article on "The New East Avenue Lights," which he declared was an able contribution.

It's a beautiful world to see,
Or it's dismal in every zone,
The thing it must be in your gloom
or your glee
Depends on yourself alone.