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Photo by
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Remote Electrical Control of Steam Valves at Station 3

FREDERICK A. MILLER

THERE is being installed at Station 3, and now nearing completion, a system of remote control of numerous steam valves in the engine room and the boiler rooms. This installation, when completely operating, should add to the convenience of keeping these valves in the best condition of operation and greatly increase not only their flexibility, but also the ultimate safety of all the station attendants. In case of steam line, steam valve or boiler breakdown, trouble or accident, such a boiler, valve or steam line can be cut out, in an extreme crisis, by operating the controllers located at a safe distance from the trouble.

The original layout consisted of the proposed operation of seventeen valves with the "Dean" control system, made by the Cutler-Hammer Manufacturing Company. These consist of three 14" valves above the boilers in the old boiler house eight boiler and two main steam line valves in the new boiler house, and four stations in the engine room, controlling steam to turbines Nos. 1, 2, 3 and 4. The steam valve on the line to turbine No. 4, while located in the new boiler house, is entirely controlled from the engine room.

To this layout for the control of seventeen valves has been added recently a similar control of the "Chapman" valves used on boilers Nos. 12 and 21, the latest installed, and on

turbine No. 5, just recently tested out and now running on the line. The 3000 kw. vertical turbine heretofore known as No. 5, is now called No. 6, and the new 10,000 kw. horizontal machine once called No. 6, is now termed No. 5, thus making the number of each machine agree with its location and position in the engine room, in its proper sequence.

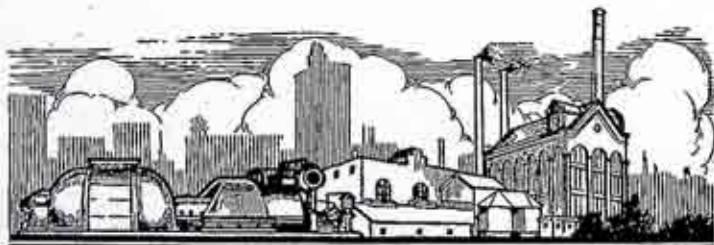
The controllers on these Chapman valves are the Chapman Company's own electrical system, quite similar to the "Dean" control system first mentioned; hence any further detail hereafter about "Dean" control apparatus will apply equally well to the "Chapman" control apparatus.

The electrical layout for each valve consists of a D. C. motor unit with its controlling and operating mechanism, all integrally mounted upon the yoke of the valve. The base of the unit is bolted to cast iron pads welded to each valve yoke. Each motor unit is supplied with actuating direct current from one of three circuits which lead from present installed direct current panel boards to the several valves assigned to that circuit; that is, of the three circuits, each operates a part or group of valves, the circuit to each valve motor being connected to a rheostat in series with the motor.

Figure 1 shows the motor unit, including limit switch box, motor casing, gear and hand wheel connections, etc., mounted with its base upon

FINISH each day and be done with it. You have done what you could. Some blunders and absurdities no doubt crept in; forget them as soon as you can. Tomorrow is a new day; begin it well and serenely, and with too high a spirit to be cumbered with your old nonsense. This day is all that is good and fair. It is too dear, with its hopes and invitations, to waste a moment on the yesterdays.

RALPH WALDO EMERSON



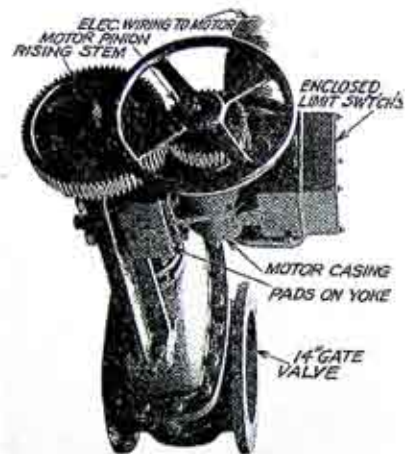


FIG. I.

the welded pads on the valve yoke.

Figure II shows the valve motor controller, which closes the circuit and operates the motor from any distant point desired. The picture shows the control switch handle in the open position of the valve, and the lens indicates open valve by flashing on a red light. The switch handle is always brought back to neutral position, to open the motor circuit for any valve operation needed, from this or any other controller located elsewhere which operates the same valve.

When the valve is open and the controller switch handle is in neutral position, then the valve can be closed by bringing the switch handle down from neutral position to closed position, which reverses the current direction in the armature and causes the motor to run in the opposite direction, thus reversing the motion of the valve stem and closing the valve, cutting out the red signal light (open) and flashing on the green signal light indicating a closed valve.

The valve motor actuates the screw stem of the valve by means of gears which are operated by a worm gear drive on the motor shaft, thus allowing the right hand rotation of the

motor, or the opposite rotation, in one case to raise the stem of the valve to open position and in the other case to reverse the travel of the stem and close the valve.

Each of the twenty valves that are to be electrically operated have three stations of control, two of which are distant from the valve; the third controller is a two way hold-in-switch located within sight of the valve to be used for test purposes. By holding the switch closed one way, the valve operates in one direction in direct sight of the tester, and holding in the switch the other way, operates the valve in the opposite direction. Springs upon this switch always throw it open, unless positively held closed by the tester.

Figure III shows the wiring diagram and connections for "Multiple point control" as above described, and shows three control stations the same as those used at Station 3. Of course as many control stations as desired can be used on any or all valves of a system.

The circuit to each valve motor unit consists of two No. 12 wires, carrying 110 volt, direct current, fused for 15 amperes maximum; in addition each main circuit is fused for 75 amperes.

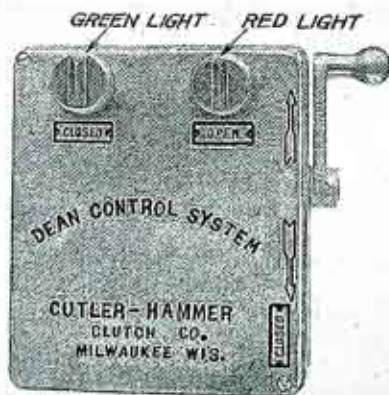


Fig. II. Showing the valve motor controller which closes the circuit and operates the motor, Fig. I, from any distant point desired.

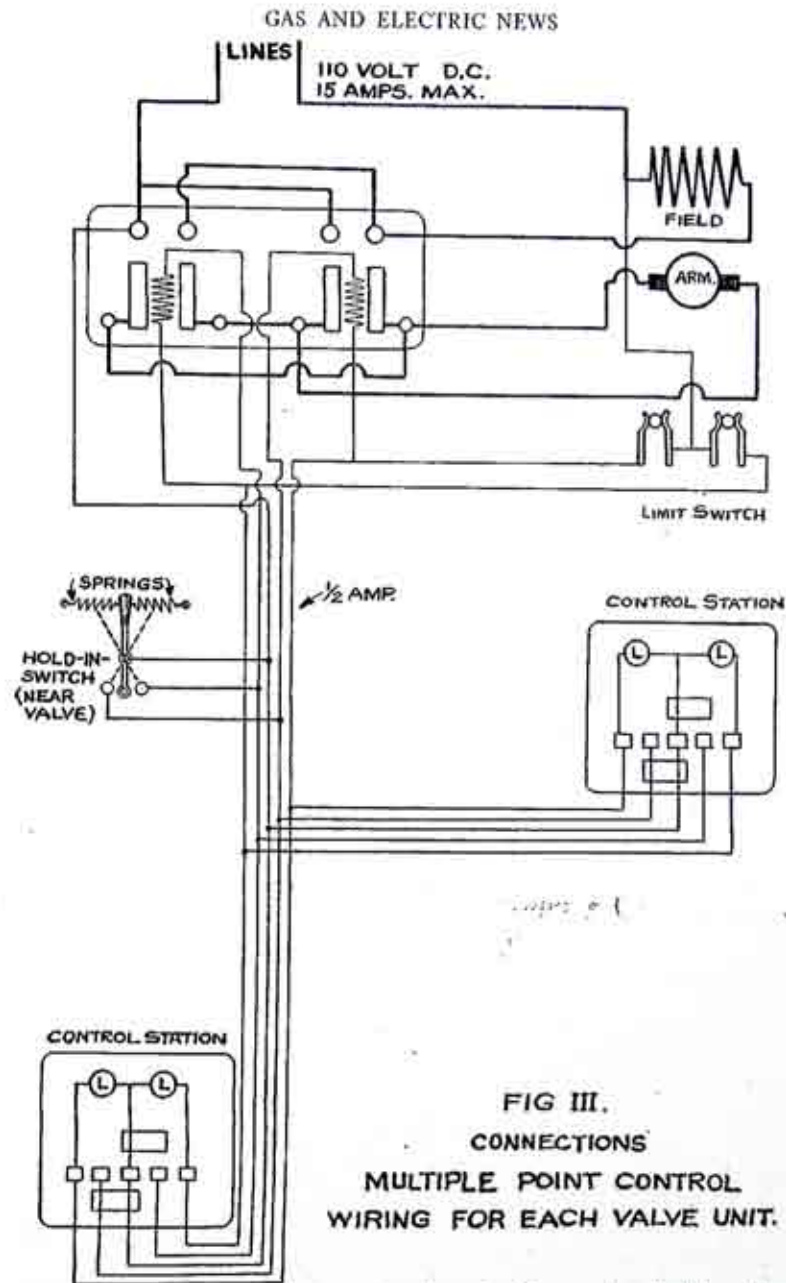


FIG. III.
CONNECTIONS
MULTIPLE POINT CONTROL
WIRING FOR EACH VALVE UNIT.

The controller circuit consists of five No. 14 wires connecting each valve motor unit system to its controller boxes. One wire is common to

the other four, and each of these forms respectively with the common return, the circuit to operate the motor and lights: (1) to open valve; (2) to re-

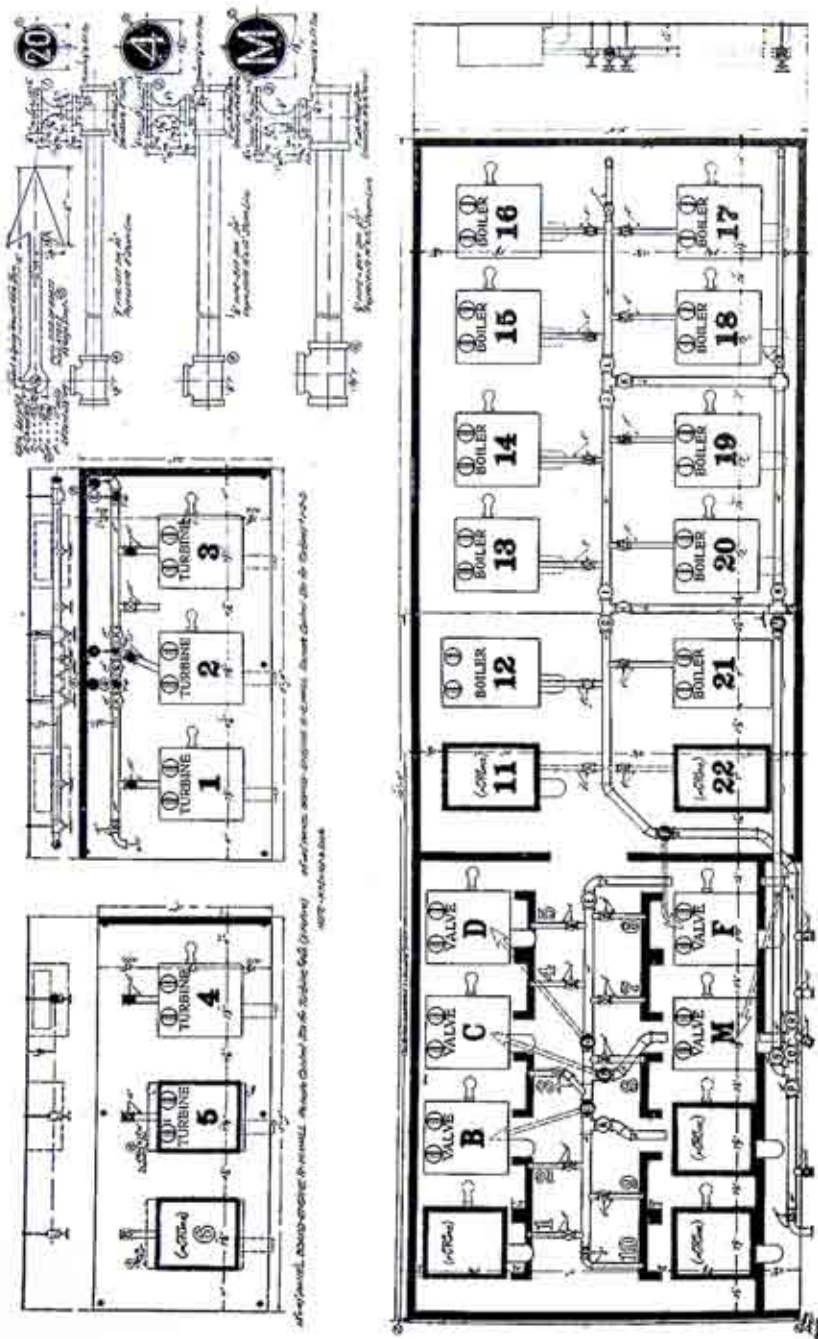


Fig. IV. Plan of the Principal Controller Panel Boards

verse the motor to close valve; (3) to close the signal lamp circuit indicating an open valve; (4) to close the signal lamp circuit indicating a closed valve. Limit switches operating in the controller circuit are finely adjusted so as to automatically open the motor circuit when the valve has reached full open or full closed position. This prevents the valve stem from being set tight or jammed, so that valve operation can be easily reversed.

Inasmuch as the greater part of the extensive distribution wiring required for this electric control is installed on the ceiling or upper part of the boiler rooms, connecting to steam valve units on boiler lines, and main steam headers, and includes wiring in conduit from the main panel boards to twenty valve motor units, twenty enclosed fuse boxes, twenty rheostats, twenty hold-in-switches and forty "Dean" controllers, it was deemed necessary to use asbestos covered wire to withstand the heat over the boilers. The use of rubber covered wire in places of considerable heat, has been found troublesome in previous similar installations and impractical for continued operating efficiency.

All valves on lines supplying steam to the several horizontal turbines, called turbines Nos. 1, 2, 3, 4 and 5 are entirely controlled in the engine room. These valves are in or near the upper galleries. The hold-in-switches are located on the galleries near the valves, but the "Dean" controllers are operated from the engine floor. Each of the turbines has an individual controller placed near the machine for close and handy operation; each has also a remote controller placed in the engine room opposite to and farthest from the machine, the steam valve of which might require emergency control. To illustrate—on the east wall of the engine room is mounted a steel plate, on the face of which are installed the three controllers remotely operating the valves

of steam lines, to turbines 1, 2 and 3. These controllers are lettered respectively Turbine 1, Turbine 2, Turbine 3, and represent in miniature the machines themselves, and the mounting plate is painted with a red band to indicate the walls and west part of engine room. In addition there is mounted on this panel—in miniature fac simile—the steam lines, with their valves, which supply steam to the turbines. The miniature valves and pipes connecting the controllers, represent the actual steam lines connecting the turbines. This system will be more fully covered later in describing the remote control panel boards for the boiler room live steam system.

Figure IV is a plan of the principal controller panel boards at which are operated at present fifteen valves with a capacity for mounting five additional controllers. There are two similar panel boards, one located in the anteroom of Station 3 office; the other located in a steel and brick penthouse especially built for it on the north wall of the boiler house and just outside the north doorway of the boiler room. They consist of steel plates three feet and four inches high by ten feet long supported on steel angle legs and framework.

Each panel board is a true miniature model in plan of the two boiler rooms, at about one-twentieth of true dimension. The face of the board, also the controllers and conduits on the board are painted black; a red band is used to indicate the building walls, also to indicate the ten B. and W. boilers of the old boiler house. The controllers mounted in that part representing the new boiler house indicate in miniature each the exact boiler the valve of which is operated by the controller so mounted.

Ten "Dean" controllers represent boilers 12 to 21 inclusive. They are so marked and operate the valves of the live steam connections from these

same boilers to the main steam headers supplying the turbines.

The ten B. and W. boilers of the old boiler house do not have electrical control of their individual steam valves, but five valves of the main steam headers are electrically controlled, as indicated on these panel boards and in the same manner as the boiler steam valves above mentioned. The controllers operating these valves are marked as Valve B—C—D—M—F, thus relating each controller to the valve it will operate.

In addition to the controllers representing valves or boilers, the valves of which they operate, take note that the entire live steam piping system of the boiler room also is represented in miniature by small piping with all fittings, valves, etc., mounted at about one-twentieth true size. Eight inch steam lines are represented by one-eighth inch pipe; ten and twelve inch lines by one-quarter inch pipe; fourteen and sixteen inch lines by three-eighths inch pipe. A small wheel disc on a stem, threaded and fitted into a tee makes a "Dummy" valve to indicate each steam valve.

This miniature piping is true to the actual station steam pipe layout generally, except in a few places, where the details are shown more directly and in diagrammatic form. For example—all the boilers have live steam connections with large U bends—so we represent them on the panel boards as straight connections to the main steam header.

The installation of this electrical control system with the necessary central stations for group operation has made necessary the naming and numbering of all important steam valves. Consequently the valves on steam lines to the turbines have been given each the same number as the turbine it controls; also the valves on the Bigelow boilers have each the same number assigned as has the boiler itself. All other valves on main steam lines, five of which only are

electrically operated, are given designating letters, A, B, C, etc.

A color scheme for lettering or numbering valves, controllers and other apparatus is also being used. As each controller box is given the name and number of the boiler whose valve it operates, so the faces of the related hold-in-switch box, enclosed rheostat and fuse boxes, and face plate of the valve motor unit are each lettered with the same name and number, in white upon the black finish of the apparatus. Each valve which is electrically operated will have its key number or letter painted on the body in white upon a red ground, and the "dummy" of this valve located on the panel boards will have its wheel disc painted red with the same letter or number in white upon it.

Each valve which is not electrically operated will have its key letter or number painted on the body of the valve in white upon a black ground, and the "dummy" of it located on the panel boards will have its wheel disc painted a black ground color with the number or letter in white upon it.

These panel boards should be valuable to all station men or other employees for the clear instruction it gives as to the boiler, steam valve and steam line layout. They present to the observer a graphic diagram of the boiler rooms with the inter-relation of steam lines and valves, shown complete from boilers to turbines.

The miniature valves by their color show plainly which ones are electrically operated; and the signal lamps at the top of each controller show by their color, red or green, at all times whether the valve which it operates is open or closed.

The entire system is before one like a map with its operating status indicated in detail, thus giving the operators not only a knowledge of the existing status, but also allowing the operation of any valve in any manner desired in the shortest time, under normal or emergency conditions.

Treatment for Electrical Shock

IN the December 1913 issue of GAS AND ELECTRIC NEWS, under General Safety, instructions were given for the treatment of people suffering from electrical shock. These rules have been revised and by permission are herewith reprinted, slightly abridged, as they appeared in a recent issue of the National Electric Light Association Bulletin.

Rules for Resuscitation from Electrical Shock

By the Prone Pressure Method, recommended by Commission on Resuscitation from Electric Shock, representing The American Medical Association, The National Electric Light Association, The American Institute of Electrical Engineers. Revised by The National Electric Light Association, April, 1919.

Treatment for Electrical Shock

An accidental electrical shock usually does not kill at once, but may only stun the victim and for a while stop the breathing.

The shock is not likely to be immediately fatal, because:

A. The conductors may make only a brief and imperfect contact with the body.

B. The skin, unless it is damp with perspiration or wet, offers some resistance to the current.

The life of the victim depends upon the prompt and continued use of artificial respiration. The reasons for this are:

A. The body continuously depends on an exchange of air, as shown by the fact that we must breathe in and out about fifteen times a minute.

B. If the body is not thus repeatedly supplied with air, suffocation occurs.

C. Persons whose breathing has been stopped by electrical shock have been reported restored after artificial respiration has been continued for approximately four hours, and the

treatment should be continuously applied until rigor mortis—stiffening of the body due to death—sets in.

The Schaefer, or "prone pressure" method of artificial respiration, slightly modified, is illustrated and described in the following resuscitation rules. The advantages of this method are:

A. It is immediately available.

B. Easy performance; no apparatus and little muscular exertion required.

C. Larger ventilation of the lungs than by the supine method.

D. Simplicity, the operator makes no complex motions and readily learns the method.

E. No trouble from the tongue falling back into the air passage. The first impulse is expiration and any foreign substance in the mouth or air passage will likely be expelled.

F. No risk of injury to the liver or ribs if the method is executed with proper care.

Aid can be rendered best by one who has studied the rules and has learned them by practice on a volunteer subject.

Instructions for Resuscitation

Follow these Instructions Even If Victim Appears Dead.

I. FREE THE VICTIM FROM THE CIRCUIT IMMEDIATELY

1. Quickly release the victim from the current, being very careful to avoid receiving a shock. Use any dry non-conductor—rubber gloves, clothing, wood, rope, etc.—to move either the victim or the conductor. Beware of using metal or any moist material. If both of the victim's hands are grasping live conductors endeavor to free them one at a time. If necessary shut off current.

Begin at once to get the subject to breathe (resuscitation) for a moment of delay is serious. Use "Prone Pressure Method" for four (4) hours

if necessary, or until a doctor has advised that rigor mortis has set in.

Observe the Following Precautions

A. The victim's loose clothing, if dry, may be used to pull him away; do not touch the soles or heels of his shoes while he remains in contact—the nails are dangerous. If this is impossible, use rubber gloves, a dry coat, a dry rope, a dry stick or board, or any other dry non-conductor to move either the victim or the conductor, so as to break the electrical contact.

B. If the bare skin of the victim must be touched by your hands, be sure to cover them with rubber gloves, mackintosh, rubber sheeting or dry cloth; or stand on a dry board or on some other dry insulating surface. If possible, use only one hand.

If the man receives a shock while on a pole, first see that his belt is secure around the pole, if possible above cross arm so victim will not fall, then break the current. Pass a handline under his arms, preferably through his body belt, securely knot it, and pass the end of the line over the first cross arm above the victim. If you are alone, drop the line to those at the base of the pole. As soon as the rope is taut, free the victim's safety belt and spurs and descend the pole, guiding the victim. When the victim is about three feet from the ground, lower rapidly so that the victim's feet hit the ground hard.

2. Open the nearest switch, if that is the quickest way to break the circuit.

3. If necessary to cut out a live wire, use an axe or a hatchet with a dry wooden handle, turning your face away to protect it from electric flash.

II. ATTEND INSTANTLY TO VICTIM'S BREATHING

1. As soon as the victim is clear of the live conductor quickly feel with your finger in his mouth and throat and remove any foreign body—tobacco, false teeth, etc. If the mouth

is tight shut, pay no attention to the above-mentioned instructions until later, but immediately being resuscitation. The patient will breathe through his nose and after resuscitation has been carried on a short time, the jaws will probably relax, and any foreign substance in the mouth can be removed. Do not stop to loosen the patient's clothing; every moment of delay is serious.

2. Lay the patient on his belly, one arm extended directly overhead, the other arm bent at elbow and with the face resting on hand or forearm so that the nose and mouth are free for breathing.

3. Kneel, straddling the patient's hips, with the knees just below the patient's hip bones or opening of pants pockets. Place the palms of the hands on the small of the back with fingers resting on the ribs, the little finger just touching the lowest rib, the thumb alongside of the fingers, the tips of the fingers just out of sight.

4. With arms held straight, swing forward slowly so that the weight of your body is gradually brought to bear upon the subject. This operation which should take from two to three seconds, must not be violent—internal organs may be injured. The lower part of the chest and also the abdomen are thus compressed and air is forced out of the lungs, the diaphragm is kept in natural motion, other organs are massaged and the circulation of the blood accelerated.

5. Now immediately swing backward so as to remove completely the pressure, thus returning to the first position. Through their elasticity the chest walls expand, and the pressure being removed the diaphragm descends, and the lungs are thus supplied with fresh air.

6. After two seconds swing forward again. Thus repeat deliberately twelve to fifteen times a minute the double movement of compression and release—a complete respiration in four or five seconds. If a watch or

a clock is not visible, follow the natural rate of your own deep breathing, the proper rate may be determined by counting—swinging forward with each expiration and backward with each inspiration.

7. As soon as this artificial respiration has been started and while it is being continued, an assistant should loosen any tight clothing about the patient's neck, chest or waist—**KEEP THE PATIENT WARM.** Place ammonia near the nose, determining safe distance by first trying how near it may be held to your own. Then the assistant should hit the patient's shoe heels about twenty (20) times with a stick, and repeat the operation about every five minutes, until breathing commences. Do not give any liquids whatever by mouth until the patient is fully conscious.

8. Continue artificial respiration without interruption—if necessary for four hours—until natural breathing is restored. Cases are on record of success after three and one-half hours of effort. The ordinary tests for death are not conclusive in cases of electric shock and doctors must be so advised by YOU, if necessary.

9. When the patient revives, he should be kept prone—lying down—and not allowed to get up or be raised under any consideration unless on the advice of a doctor. If the doctor has not arrived by the time the patient has revived, he should be given some stimulant, such as one teaspoonful of aromatic spirits of ammonia in a small

glass of water, or a drink of hot ginger tea or coffee.

The patient should then have any other injuries attended to and be kept warm, being placed in the most comfortable position.

10. Resuscitation should be carried on at the nearest possible point to where the patient received his injuries. He should not be moved from this point until he is breathing normally of his own volition, and then moved only in a lying position. Should it be necessary, due to extreme weather conditions, etc., to move the patient before he is breathing normally, he should be kept in a prone position and placed upon a hard surface—door or shutter—or on the floor of a conveyance, resuscitation being carried on during the time that he is being moved.

11. A brief return of spontaneous respiration is not a certain indication for terminating the treatment. Not infrequently, the patient, after a temporary recovery of respiration, stops breathing again. The patient must be watched, and if normal breathing stops, artificial respiration should be resumed at once.

III. SEND FOR A DOCTOR

If other persons are present when an accident occurs send one of them for a doctor without a moment's delay. If alone with the patient, do not neglect the immediate and continued resuscitation of the patient for at least one hour before calling a doctor to assist in further resuscitation efforts.

Safety in Relation to the Use of Gas

FOR illuminating and cooking purposes gas has become so common in the home that many of us are neglectful of the care and forethought that are necessary to prevent accidents resulting from its use. It is also extensively used for water heating,

house heating and manufacturing purposes. A good rule to follow is "BE CAREFUL" and if this rule is adhered to, gas will be a faithful servant and one of the safest, most useful and convenient commodities we have.

The most common appliance where-in gas is used in the home is the gas stove. Safe operation of this appliance depends somewhat on its condition: (a) Are the valves and burners properly adjusted so that the burners will light properly? (b) Do the valve handles operate too easily so that they are liable to be opened accidentally by brushing against them with the clothes or by little children playing near? (c) Are the oven doors always opened when lighting the oven burners so that there can be no accumulation of gas in the ovens that may explode when the gas is applied? (d) Is the stove free from dirt and grease? By examining these conditions and practicing caution when lighting the burners and using the stove, the chance of accident is eliminated.

The gas water heater, an appliance that is now in general use, should always be connected to a ventilating pipe or flue to carry off the fumes of combustion. These fumes are disagreeable and an accumulation of them in a closed room is dangerous. Automatic water heaters are lighted with a pilot flame and if the pilot is extinguished by a draught of air or the shutting off of the gas supply the burners will not be lighted and the escaping gas becomes hazardous. Frequent examination of the pilot flame may therefore prevent an accident. Other styles of gas water heaters are made to be lighted with a match or similar method each time a supply of hot water is needed. The safe way to light heaters of this kind or any other gas burning appliance such as gas logs and portable air heaters is to light the match first, then turn on the gas and immediately apply the light to the burner, keeping the face and clothing as far as possible from the burner.

In homes or buildings where gas is used for illumination, all inflammable material such as curtains, draperies, etc., should be kept at a safe distance from the gas burner or fixture. Cloth

or paper lamp shades should never be used. Mica heat deflectors should be placed over burners where they are close to the ceiling.

If the odor of gas is noticed the first thing to do is to open doors and windows and let the gas fumes escape to the outside atmosphere, then notify the gas company to send an employe to make repairs. Many serious accidents have resulted from inexperienced people attempting to look for and repair a gas leak. Never look for gas leaks with an open flame or a kerosene lamp.

The prepay or "Quarter" meter is so constructed that the gas is automatically shut off if the meter is not supplied with the necessary money. If this should happen the burner valves that are supplied through the meter should be shut off before inserting the money in the meter. Disregarding this caution might result in the escape of sufficient gas to cause an explosion.

Children should be taught to keep away from all gas appliances and not attempt to light or turn on the gas. Experience has shown that this caution is valuable. When it is necessary to have gas appliances connected by a hose, great care should be taken to prevent children from accidentally disconnecting the hose. When not in use all appliances connected by hose should have the gas shut off at the wall pipe and not at the appliance, then if the hose becomes disconnected no gas will escape.

If an accident should occur and a person is overcome by escaping gas fumes, a knowledge of the Schaeffer or Prone Pressure Method of Resuscitation is indispensable. (This method is explained on pages eight and nine of this BULLETIN and should be closely studied and practiced by everyone.) This method is equally effective in other causes of suspended respiration such as electric shock, apparent drowning or suffocation due to smoke.—*Safety Bulletin.*

Repairing the Lightning Arrester on Station 3 Chimney

ROGER D. DEWOLF

SOME weeks ago it was noticed that the cable connecting the lightning arrester points at the top of the large chimney at Station 3 had become loosened, and that repairs were necessary. This chimney was completed in the summer of 1913, is 265 feet high, 18 feet inside diameter at the top and is provided with two sets of iron steps built into the brick work on the inside. There was doubt in the minds of some as to whether or not these steps were safe on account of the action of gases, so a question arose as to what method could be used to get to the top of the chimney to make the necessary repairs.

As a result of a news item inserted in the papers, applications were received from a number of aspiring chimney climbers, each one of whom had his own idea as to the best method to climb the chimney. Some were perfectly willing to use the steps on the inside. Others by some mysterious method which they refused to divulge, expected to climb the outside of the chimney. A contract was finally let with Mr. Otto C. Bueg who is engaged in installing lightning arresters on church steeples and other types of high buildings for one of the well known lightning arrester manufacturing companies.

On July 4th Mr. Bueg made his first ascent and found that the copper cable which encircles the chimney at the top, carrying nine platinum tipped copper rods, was very badly corroded due to the action of the sulphur in the smoke and moisture. It was evident that the job was considerably bigger than we had anticipated, and that it would be necessary to replace the en-

tire ring as well as a portion of the cables coming down the stack. In order to further safeguard against a repetition of this trouble it was also decided to put an auxiliary ring around the chimney about eight or ten feet from the top. The work continued right through July 4th, 5th, 6th, and finished on the 7th.

4/0 stranded weather proof cable was used for these rings, and for connecting the points to the rings. The insulation was left on this cable except at the points where connections were made and after the connections were completed the points were thoroughly taped with treated cloth and adhesive tape. By this means it is believed that the rate of corrosion of the cable will be very greatly decreased, and the life made correspondingly longer.

Mr. Bueg's spectacular work attracted considerable attention around Station 3. He found the iron rod steps on the inside of the chimney in practically as good condition as when they were installed except that at the top where the chimney is only about ten inches thick, the steps had loosened up somewhat. These steps are made of 3/4-inch iron rods bent into a "U" shape with hooks on the ends that are embedded in the chimney. Near the top of the chimney and on the outside, a sort of cornice is built for decorative purposes, and it formed a good walk-way for Mr. Bueg. While some of us might not consider this a very good sidewalk it seemed to be very satisfactory to Mr. Bueg. With the completion of this repair it is to be hoped that it will be unnecessary for anyone to go to the top of the chimney for some years to come.

Have You Joined the E. B. A?

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Discipline is nothing in the world but training yourself to do in the best possible way the thing you have to do, to learn what the thing is and then to hold yourself to that. Until you have learned this, you are not fit for liberty.

—Ida M. Tarbell.

Why Buy Insurance?

BUYING insurance is one indication of a sensible person.

Level-headed men and women never debate the purchase of insurance; with them the questions are "What kind of insurance shall I buy? Where shall I place it? How much can I afford?"

For employees of the Rochester Railway and Light Company there is one answer to the first two questions—"The E. B. A." The third question must be answered by the individual, with the kindly suggestion

from experienced friends to buy just as much as he can.

Now what is this E. B. A.? It is simply an organization of your associates in business to protect each other from want in case of sickness or injury. It is controlled by trustees elected by the membership, through officers appointed by the Company. What do the members get? Half pay in case of illness or accident not covered by the Compensation Law, a death benefit aggregating \$1000 plus A CONSIDERABLE CONTENTMENT OF MIND. What does it cost? From \$0.47 to \$0.90 per month, depending on the amount of your wages, plus an occasional death assessment of \$0.25. Why is the cost so low? Because the Company contributes an equal amount toward the dues and assessments. What does the Company get? Your more steady attendance on the job plus the satisfaction of the Management that the Company's employees are provided for in case of disability.

Many of the Company's younger employees, a few of the older ones, and a large proportion of the women in the organization hold out because they have not been sick, or because they have no family, or because they think they can beat the game. Who has any contract with the Almighty which guarantees him or her continued health or freedom from accident in this strenuous day and age? And if you will gamble with loaded dice, how about the business aspect of belonging with the crowd who support the Management and each other in what they know works for the Company's good? Think it over!

Play Safe

APROMINENT general manager recently told his organization that any employee who took unreasonable chances was a fool. A strong statement you say. Let us see. A company has certain work to do, provides machinery with suitable safeguards and lays down safe operating conditions up to the limit of its knowledge. It stands ready to make changes either in the equipment or methods, providing the changes will make the work safer. What does it stand to lose when someone is hurt? The loss of services of the employee, a comparatively small amount of money, a disorganization in the plant and the harrowed feelings of the management.

What does the injured employee stand to lose? Anything from his job to his life.

Some work is inherently dangerous, but in the interest of good service it must be done. These jobs compel us to take reasonable chances. Watch out for unreasonable ones. They exist everywhere. If gotten away with they may save some time, but the saving is not worth the risk. There is no longer much sympathy for one who is injured through carelessness or deliberate recklessness, and the injured man always pays the bill. Play safe.



"The Forehanded Man"

WE are passing through a period of very high prices as everybody knows, and all are concerned with the high cost of living because it

comes home to us as individuals. The average individual, however, does not stop to think of the high cost of doing business from the point of view of the financier as exemplified in the high price of money.

Money to-day is the highest priced commodity in business. Call money on the New York Stock Exchange is often up to 14%, long time loans cost 9% and money secured through high grade stocks and bonds costs 7%. What does this mean to the average man? It means among other things, the desirability of putting surplus funds, or savings which can be made from future wages into safe investments. What investments? Company Stock. Don't you as Company employees appreciate the value of this stock? Don't you want to be partners in a real business? This is probably the last chance you will ever have to become a partner and get 7% on your holdings in the Company. In all human probability the next stock sale, if any, will be at the rate of 6% or less, for money will unquestionably be cheaper in the future.

Sagacious long-headed business men are reading the handwriting on the wall. Imitate their example. Buy Company stock on the installment plan. You are taking advantage of the times. Your efforts toward more business and more economical operation will mean more money for you in addition to your salary. Everybody admires "The Forehanded Man." Be one yourself.



The object of all education should be to increase usefulness of man—usefulness to himself and others.—Robert G. Ingersoll.

Locke Insulator Company Requires More Power

JOHN B. ALLINGTON

The Locke Insulator Company at Victor, New York, manufacturers of high grade porcelain insulators, has recently contracted with this Company for the supply of 60 cycle, alternating current, for use in the Victor plant.

The Locke Company has a 440 volt, 60 cycle, Corliss engine driven generator, but their business has grown to such an extent that additional power is a necessity. An additional generating unit would have been expensive and its cost of operation so great that it would not pay. As the Company's Power system in Victor is 25 cycle there were but two other alternatives for the Locke Company.

First, they could buy 440 volt, 25 cycle current from us changing its frequency by means of a motor generator set in their plant or install several new 25 cycle motors, operating them on a new 25 cycle distribution system within their plant. Secondly, they could buy 440 volt, 60 cycle current from this company by paying for the installation of a frequency changer set in the Victor Substation.

The latter plan was the one adopted. A 100 kilowatt frequency changer set has been installed in the Victor Substation and a 2300 volt transmission line built from the substation to the Locke Insulator Company's power house. Here it is stepped down to 440 volts and sold as 440 volt, 60 cycle current.

At the present time the Locke Company is buying 50 kilowatts from 7 A. M. until 6 P. M. on week days. However, with the growth of the Insulator Company this amount may soon be doubled. The present installation in the Victor Substation is temporary, as this Company plans to run a 60 cycle transmission line through Victor in the near future.

The Community Chest Campaign

Dear Mr. Editor: I wish through GAS AND ELECTRIC NEWS to express my thanks to the members of the Committee who worked so faithfully on the Community Chest Campaign.

Happily the incentive is not the same that caused us to pledge "One Hour's Pay Per Week" to the War Chest of last year but that most of us realize days of Peace bring their own responsibility is proved by the fact that 1,087 subscriptions amounting to \$2,411.64 were turned in by the employees of the Rochester Railway and Light Company. The slogan of the Campaign was "One Day's Pay" but the amount subscribed was of secondary importance to the willingness of each one to give something. We are all gratified at a good thing well done and I am sure it has been a source of great satisfaction to each one of us to be able to add his mite. I wish particularly to congratulate those departments having one hundred per cent records.

Twenty of the Company's employees subscribed direct to Headquarters and these subscriptions we have not included in the results tabulated below.

The amounts subscribed, except the total of all subscriptions, are withheld. In this campaign we tried to secure as large a representation as possible so less stress was laid upon the amount to be given.

It has been rather interesting to note how those departments which lagged during the early part of the campaign came to the front when some of their objections were overcome and the plan and scope of the Community Chest thoroughly explained to them. It is to be hoped that the Departments that failed to measure up, fell down from a misunderstanding rather than from lack of appreciation of their obligations to those less fortunate. It is to be re-

gretted that the Company as a whole was prevented from getting into the 90% class which would have entitled it to the banner given to industrial concerns securing 90% or more subscriptions among their employees.

While the active campaign has closed, we trust that any employee away on vacation or for any other reason unable to make his subscrip-

tion during the campaign, will hand it to the Paymaster, Mr. W. C. Gosnell.

Again thanking both subscribers and workers for contributing to the success of the campaign, I am

Very truly yours,

P. J. O'NEILL,

Captain—Community Chest Campaign.

Station No.	No. Employees	No. Subscriptions	Percentage
1	5	2	40
2	9	6	67
3 Office	16	16	100
3 Boiler Room	27	27	100
3 Steam Fitters	14	14	100
3 Engine Room	39	39	100
3 Construction	43	43	100
3 Switchboards	15	15	100
4	17	16	94
5	23	23	100
6	10	8	80
26	3	3	100
33	5	2	40
34	3	3	100
35	8	8	100
Motor Dept.	36	34	94
Construction—General	131	130	99
Coke	24	24	100
East Station	64	64	100
West Station	153	106	69
Electric Distribution Office	18	15	83
Electric Meter & Arc Lamp	46	46	100
Subway	21	21	100
Overhead	37	36	97
Underground	23	23	100
Gas Distribution	41	41	100
Gas Shop	53	53	100
Transportation	53	40	75
Auditing Dept.	25	20	80
Mailing	6	6	100
Payroll	11	11	100
Janitors	8	8	100
Electric Office	7	5	71
Employment & Claim	9	9	100
Stenographic	4	4	100
Industrial Dept.	13	10	77
Drafting—Mr. Harding	6	5	83
" Mr. Rockwood	11	11	100
Engineering Dept.	6	6	100
Purchasing & Stores Records	10	9	90
Storehouse	10	5	50
Treasury Dept.	8	6	75
Consumers' Ledger Dept.	112	70	63
Tabulating Dept.	10	5	50
Telephone	12	10	83
Domestic Sales	20	19	95
Laboratory	10	9	90
East Rochester Office	1	1	100
Total	1,236	1,087	88
Total Subscriptions			\$2,411.64

Program of Home Economics Bureau

A complete outline of the program for the 1919-1920 season for the guidance of the various neighborhood committees in planning work to be taken up by the agents of the Home Economics Bureau of the Chamber has been formulated. This program covers the various problems that confront the average housewife, and represents a division by months.

CANNING DEMONSTRATIONS

July

1. Vegetables—2 or 3 kinds canned.
2. Fruit—2 or 3 kinds canned.
3. Jellies—Demonstration of making, together with discussion of jelly making properties, etc.
4. Pickling.
5. Conserves, preserves, etc.

August

- I. Hot weather ices and drinks (recipes).
- II. Lunches (picnic, working men's, children's).
 1. Balanced lunches and cost.
 - a. Menus.
 2. Preparation.
 - b. Recipes.
 3. Packing of lunches.
 - c. Demonstration of preparation of one of the menus.

BUDGET MAKING

September

This is an important subject and it will need several lessons to work out problems in connection with various sized incomes.

PLANNING OF MEALS

October

1. Study of the different foods—what is meant by balanced meals.
2. Menus given and discussed as to food value and economy in buying and preparing.
3. Menus to be brought in by class and discussed.
4. Demonstration of a menu, well balanced, seasonable and easy to prepare. Discussion.

MARKETING

November

1. Study of bulk and package foods. When it is wise to buy the one kind and when the other.
2. Study of different cuts of meat. (Talk by a practical butcher.)

3. Planning of menus and discussion of marketing in connection with particular meals. (Discussion of the emergency shelf and how to use it.)

CONSERVATION OF FUEL

December

1. Coal—Lecture by coal dealer.
2. Gas—Lecture on its conservation.

CONSERVATION OF FUEL (Continued)

January

3. Fireless cookers. (How to make.)
4. Fireless cookers. (How to use.)

INVALID COOKERY

February

1. General rules for preparation of food for invalids. Discussion of diseases in which dietetics play an important part.
2. Tuberculosis. Meals suitable for patient. Discussion.
3. Diabetics. Meals suitable for patients. Discussion.
4. Anaemia. Meals suitable for patients. Discussion. (Any other kind of menu if asked for by class.) Discussed—packing of same.

CHILD FEEDING

March

1. Lesson on importance of milk in diet.
2. Using a doctor's formula—a demonstration given on preparation of same. (Adapting this to locality needing the instruction.)
3. Food for children from 2 to 6.
4. Food for children from 6 to 12.

HOUSEWIFERY

April

1. General care of house—floors, furniture, draperies, etc., with discussion of modern appliances.
2. Housecleaning.
3. Dry cleaning—draperies and clothes.
4. Laundry.
 - a. Removing of stains.
 - b. Recipes for cleaning agents.

—Rochester Commerce.

Some Life

"The army must be a terrible place," said Aunt Samantha, looking up from the evening paper.

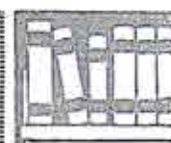
"What makes you think so, Samantha?" asked her dutiful spouse.

"Why, jest think what it must be where beds is bunk and meals is a mess."

—Washington Star.



Auditing



New Business

Net Increase in Consumers in First Four Months of 1919

	Dec. 31, 1918	April 30, 1919	Increase
Gas.....	79,037	78,166 (Dec.)	871
Electric.....	28,907	29,274	367
Steam.....	88	90	2
	108,032	107,530 (Dec.)	502

Net Increase in Consumers in Twelve Months Ending April 30, 1919

	April 30, 1918	April 30, 1919	Increase
Gas.....	78,779	78,166 (Dec.)	613
Electric.....	28,267	29,274	1,007
Steam.....	51	90	39
	107,097	107,530	433

Statement of Consumers by Departments as of April 30th

April 30	Gas	Elec.	Steam	Total	Increase
1908	37,804	6,102	—	43,906	—
1909	42,242	6,599	—	48,841	4,935
1910	47,433	7,775	—	55,208	6,367
1911	53,042	9,400	17	62,459	7,251
1912	57,795	11,447	20	69,262	6,803
1913	62,776	14,342	23	77,141	7,879
1914	67,403	16,750	30	84,183	7,042
1915	70,341	20,052	37	90,430	6,247
1916	72,263	23,118	41	95,422	4,992
1917	76,092	26,190	49	102,331	6,909
1918	78,779	28,267	51	107,097	4,766
1919	78,166	29,274	90	107,530	433
Inc. in 11 Yrs.	40,362	23,172	90	63,624	63,624

Net Increase in Consumers by Months

	1917	1918	1919
Increase in Jan.....	194	54 (Dec.)	69
Increase in Feb..... (Dec.)	19	56 (Dec.)	463
Increase in March.....	386	183 (Dec.)	277
Increase in April.....	608	322	307
	1,169	615 (Dec.)	502

Subscribers to 7% Preferred Stock

Number of Subscribers, May 1.....	1,669
Number of Subscribers, June 1.....	1,750
Number of Shares, May 1.....	11,008
Number of Shares, June 1.....	11,846

Miscellaneous Data

	April 30, 1919	April 30, 1918	Increase
Miles of Gas Main.....	489	487	2
Miles of Overhead Line.....	1,905	1,904	1
Miles of Underground Cable.....	1,128	1,120	8
Miles of Subway Duct.....	998	992	6
No. of Street Arc Lamps.....	1,638	1,713 (Dec.)	75
No. of St. Inc. Lamps.....	8,807	8,630	177
Total No. of St. Lamps.....	10,445	10,343	102
No. of Employees.....	1,331	1,314	17
Amt. of payroll (Mo.)	\$143,809.83	\$125,162.18	\$18,647.65

E.B.A. for Month of May 1919

Receipts

Bal. on hand May 1st, 1919.....	\$1,466.47
Dues—Members.....	\$577.26
Dues—Company.....	577.26
Fees—Members.....	11.00
Fees—Company.....	11.00
Assess't—No. 22-23—Mem.....	3.25
Assess't—No. 22-23—Comp.....	3.25
Members' Additional Life Insurance.....	17.39
	1,200.41
Total.....	\$2,666.88

Disbursements

Sick Benefits.....	\$525.96
Accidents off Duty Benefits.....	61.50
Accidents on Duty Benefits.....	62.21
Death Benefit No. 24.....	400.00
Group Life Insurance.....	71.67
Medical Examiner's Expenses.....	52.50
Members' Additional Life Insurance.....	11.41
Members' Dues.....	.73
	1,185.98
Bal. on hand May 31, 1919.....	\$1,480.90

Membership

Members April 30th.....	788
Affiliated May.....	21
Terminated May.....	16
Members May 31st.....	793



Athletics



On May 24th the Railway and Light Baseball Team pulled up anchor at South Park and sailed forth on a veritable sea of mud and water to do battle against the mighty shoe men from Sherwoods. Insufficient practice and failure to locate the pill with the stick found the Lighters on the small end of a 12-0 score. One week later not having fully recovered from the effect of its first battle, the team again sallied forth to do battle with the Button Men and here another defeat was chalked up against them. However you can't discourage the boys from the Light Company and they came back strong on June 7th with a score of 14-2 against the Rochester Stamping Company.

It seemed as though the tide had turned when the next game ended with the Lighters on the long end of a 11-2 score against Bastian Brothers. Then for two consecutive games the break in luck was against us. The Selden Motor Company and the Todd Protectograph Company each walked away with a game under its arm, leaving us in sixth place in the league.

A good word should be said here for Company "Boosters" who have been behind the team from the start, and many thanks are due them from the team. A little encouragement from the bleachers at the right time often turns defeat into victory. Our team is composed of men who like clean sport and they are out to fight to the last. Come on, then you "Boosters" and give them a bit of encouragement to climb into first place.

Tennis

These are tennis days and public and private tennis courts are being worked hard to accommodate the in-

creasing number of "racketiers" that are anxious to "serve 'em over" this year. So much interest has been shown in the game, especially by the girls, that it has seemed advisable to start an Interdepartmental Tennis League. There are two objects in starting such a league. First to stimulate interest in the sport itself and second to give the girls of the different departments an opportunity to become more intimately acquainted with each other.

During the summer of 1918 interest in all sports fell off somewhat. However, this year there are already about thirty girls who have expressed their desire to enter the tennis league. The games will be played on Monday, Wednesday and Friday at both No. 10 Holder and Station 33. Tuesday, Thursday and Saturday nights are open for those who wish to play but are not in the league, and a very pleasant evening can be spent at Station 33 by tennis parties of six or eight taking a basket lunch with them. Arrangements are being made to have the court at No. 10 Holder illuminated so that parties can play as late as they wish. A new court is being built at East Station and will soon be ready for use.

Quoit League

A Quoit League has been organized under the management of the Rochester Industrial Athletic and Recreation Association. The Company will be represented when the league "shoves off," on July 19th at the Brown's Square pitches. It is hoped that men from the Andrews Street Yards, Station 3, and the both Gas Works will show an interest in this sport. Quoit pitches were installed at various places.

Victory Garden Bulletin

For blights and fungus diseases, which will soon appear in vegetable gardens, the Victory Garden Council recommends the universally used spray, Bordeaux Mixture. For the need of the ordinary gardener, possibly the best way is to buy the Bordeaux already prepared. It comes in convenient size packages with directions for using, printed on the package. Bordeaux mixture is used on beans, potatoes, cucumbers, squash and nearly all vegetables subject to blight.

SPECIAL: Home gardeners are requested to enter vegetables in the vegetable garden exhibit at the Rochester Exposition in September. Liberal prizes will be awarded for winning specimens.

The following statement appearing in one of the afternoon papers is interesting in contrast to present-day methods of street lighting.

Fifty Years Ago Today

June 30, 1869

The Common Council adopted a resolution to enter into a contract with the Rochester Gaslight Company for lighting the streets of the city. "The lamps to be lighted with Ayer's Almanac as guide."

—Rochester Times-Union.

Personals

President James T. Hutchings addressed the New York State Association of Electrical Contractors and Dealers, in convention at Saratoga Springs, June 23rd and 24th, his subject being "Effect of Lighting Companies' Rates for Current on the Business of the Electrical Contractor and Dealer."

General Manager Herman Russell has returned from a two months vacation spent on his farm at Manistee, Mich., during which time he acquired a fine coat of tan.

Company men who have been in the Service and have returned, now number one hundred and twenty-five. In this number are included the following:

DAVID ALLOWAY	THOMAS MULRONEY
ANDREW BROSTROM	T. J. MURY
L. COSTENO	BASIL G. PARTRIDGE
JAMES CULLIGAN	THOMAS REDDY
T. DELLESFANE	WILLIAM D. SPALL
CHARLES FERRIN	A. TUCITTO
ANTHONY HOLDRICH	JEFFREY WILSON
RAYMOND McCAFFERY	CHARLES WIXSON
E. M. MAGSON	JOE VELENTO

Mr. Ernest E. Friday, of Station 3, spent a very pleasant vacation at Pittsburgh, Pa.

Mr. and Mrs. A. C. Rissberger are happy over the arrival of a daughter, Jean Elizabeth, on June 13th, 1919.

Mr. Buel W. Ellison, crane operator at Station 3, is the proud father of a son, Buel W. Jr. Mother and son are doing well.

Mr. William F. Morris, of Station 33, visited his mother at Jersey City, N. J. and reports a very pleasant vacation trip.

Mr. John O'Keefe, of Station 3, has recently returned from France safe and sound and heart-free. Welcome home, Johnny.

Mr. Glenn Knight, of Station 3, has overcome the high cost of painting by doing his house himself. He also acquired a fine coat of seashore tan while on the job.

Messrs. VanDoren, Rayher, Rinke and Rubel of the Utilities Mutual Insurance Company were visitors at the Company offices during the past month.

Mr. Andrew S. McDowell, Superintendent of Electric Generation, went to Lake Placid, N. Y., June 28th, to attend the Annual Convention of the American Institute of Electrical Engineers, visiting Schenectady and Syracuse on the trip.

Mr. George B. Newman, of Station

5, has returned from a vacation spent in convalescing from a severe attack of pneumonia. His fine coat of tan and healthy appearance testify to the wonderfully recuperative qualities of Irondequoit air and sunshine.

Mr. Edward L. Wilder, Assistant Manager Industrial Department, attended the Eleventh Annual Convention of the National District Heating Association held in Pittsburgh, Pa., June 10-13. Mr. Wilder was elected Third Vice-President of the Society. Following the convention, he spent a two weeks' vacation at Oakmont, Pa.

Mr. John C. Parker, of the College of Engineering, University of Michigan, called on friends in the Company recently, on his way to and from Lake Placid, N. Y., where he attended the Annual Convention of the American Institute of Electrical Engineers.

Miss Florence May Lake, of Boston, Mass. and Mr. Elmer R. Chaffer of the Electric Distribution Department, were married at 412 Parsells Avenue, on Thursday, June 12, 1919.

Miss Catherine M. Burns, of 210 Williams Street, and Mr. Elmer F. Gamrod, of the Consumers' Ledger Department, were married at noon Saturday, June 28th, 1919. The ceremony took place in the Second Baptist Church, the Rev. Ernest W. Parsons officiating.

Announcement of the marriage of Miss Dorothy Anna Gilbert and Mr. P. B. Seymour has been received. The ceremony took place at Syracuse, N. Y. on June 10th, 1919. Mr. Seymour was formerly of the Auditing Department of this Company and lately returned from overseas.

Miss Kathleen M. Creed, of Ft. Covington, N. Y. and Mr. George Harrison Wallace of the Coke Sales Department, were married June 25th, 1919. They will spend the summer at Lincoln Wood on the East shore of Canandaigua Lake, moving to Rochester in the fall.

Miss Marguerite Gordon, of 242 Dartmouth Street and Mr. William N. Whitney of East Station, were married Monday morning, June 30th, 1919. The ceremony was performed by the Rev. J. Francis O'Hern in Lady Chapel of St. Patrick's Cathedral. Mr. and Mrs. Whitney will reside at 121 Laburnum Crescent after September first.

On account of lack of space the names of new employees were not published in recent issues of GAS AND ELECTRIC NEWS. Amongst those who have joined the Company family during that period are: The Misses Isabel Voellinger, stenographer Industrial Sales Department; Anna Doyle, Thelma Goold, Rose Marcell and Rhea Shapiro, operators Telephone Department; Nita C. Swartout, clerk Stores Record Department; Marie Schuhart and Bessie Sullivan, typists Consumers' Ledger Department; Ada Guttridge, clerk Tabulating Department; Ruth M. Allen, Josephine L. Landerer and Nora E. Young, clerks Electric Distribution Department; Mrs. R. J. Arlidge, stenographer Engineering Department; Mrs. Mattie Mailander, assistant at Commissary; Messrs. Elmer Gosselin, G. W. Austin Haines, C. Witmar Hartson, Loren D. Webb and Lyle Wood, field clerks Auditing Department; Paul J. Harvey and C. R. Winterroth, tracers Drafting Department; Louis E. Schweikart and Avery B. Weaver, operators Telephone Department; Charles F. Coyle, clerk, Kenneth Dodd and David W. Moody, salesmen, Coke Sales Department; George F. Harrington, salesman Domestic Sales Department; James Boyle, messenger Mailing Department; Bernard D. Nugent, clerk Gas Shop; Joseph H. Griebel, clerk Transportation Department; John A. Graham, Jr. clerk, and James Wishart, draftsman, General Construction; and Philip E. Thomas, Industrial Sales Department.