GAS AND ELECTRIC NEWS

PUBLISHED BY

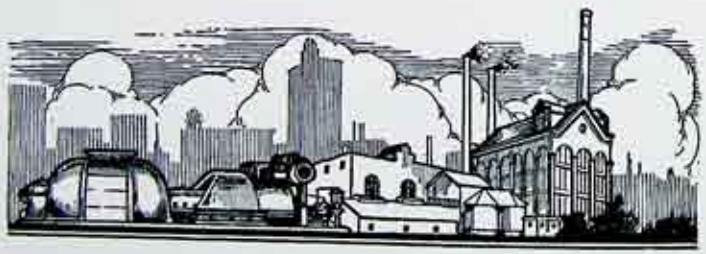
THE ROCHESTER RAILWAY & LIGHT CO.

VOL. 5 SEPTEMBER, 1917 NO. 3

R & L. O Water Company's Reservoir, Cobbs Hill

"THIS is the time for America to correct her unpardonable fault of wastefulness and extravagance. Let every man and every woman assume the duty of careful, provident use and expenditure as a public duty, as a dictate of patriotism, which no one can now expect ever to be excused or forgiven for ignoring."

—From the President's Proclamation
April 15, 1917



GAS AND ELECTRIC NEWS

Published Monthly by

ROCHESTER RAILWAY & LIGHT CO., 34 Clinton Ave. N., Rochester, N. Y.

INDEX—Vol. IV., 1916-1917

	Pages
ALMSTEAD, J. A.	
Electricity in Irondequoit and adjoining districts	July 361-364
AMDURSKY, S. S.	
How a Gas Burner on an Embossing Machine was modified to do the work required	241-242
The Use of Gas in Printing a Newspaper	292-296
The Use of Gas in the Manufacture of Potato Chips	295-296
The Use of Gas in the Manufacture of Shoes	356-358
ATHLETICS	
A Successful Baseball Season	141
Bowling	370
Crockett-Lundgaard Golf Victory	175
Formation of an Industrial Tennis League	174
Organization of Company's Baseball Team	370
Standing of the Clubs	398
Tennis League	398
AUGENSTEIN, O.	
Entering Orders	July 373
BACON, H. E.	
Signal System at Station 3	267-268
BINDER, C. G.	
Central Avenue Steam Main	348-350
BROWN, C. G.	
Electrolysis Survey in Rochester	382-383
Principles of Electrolysis	323-325
The Company's Research Laboratory	235-238
BURNE, STANLEY L.	
The Company's Pulmotor Service	293-294
CLARK, C. C.	
Instructing Future Customers to read their Gas Meters	339
COLEMAN, G. T.	
The Telephone Department	226-229
CRANE, EDW. J.	
Location of Street Work on Gas Mains	341
CROFTS, E. R.	
Large Sector Gates for Dam at Station 5	217-223
New Inclined Railway at Station 5	249-252
DADY, GEORGE S.	
Combination Atmospheric and Blast Burner	273-274
DEFFENBAUGH, H. C.	
In the Trenches at Ontario Center	30-32
Rates for Electricity	81-83
Rates for Electricity	152-155
The Company's New Steam Rates	198-199
Time Saving Device Used in the Billing Department	232-233
DEMONSTRATORS	
A Typical Example	392
Canning—Fruit	34
Canning—Preserving the U. S. Food Supply	362-363
Common Sense Use of Left-Overs in Cutting the Cost of Living	239-240
Co-operation	271
Eggs—Their Value, Cooking, and Storage	337-338
General Directions for the Preparation of Vegetables for Canning	392
Government Bulletins	271
Jelly Making	35
Menus for Christmas or New Years Dinner	203-204

INDEX—Continued

DEMONSTRATORS—Continued — Pages
Pickle Making . . . 93
Planning the Day's Meals . . . 164
Some Good Preserves . . . 392
Study . . . 393
Tested Recipes . . . 393
Textile Talk . . . 131-132
Warm Weather Reminders . . . July 381-382

DISTRIBUTION—GAS
Increased Gas Supply for Rochester Stamping Works . . . 221

DISTRIBUTION—ELECTRIC
Sector Type Cable used to Distribute Energy from New KW Steam Turbine at Station 3 . . . 170

DE WOLF, R. D.
New Steam Turbine at Station 3 . . . 265-266

DOMESTIC SALES REPORT, 1916 . . . 395

EARLE, W. H.
An Interesting Purifying Box Problem at the Gas Works . . . 102-103
Bench Fuel Control . . . July 368-371
Booster Pump on East Rochester Gas Main . . . 139
Changes in Dehydrating Apparatus at Gas Works . . . 224-225
Gas Holder Heating System . . . 277
Nature of Oil Used in Manufacture of Carbureted Water Gas . . . 148-151

EDITORIALS
Accident Prevention . . . 290
A Glimpse at our Industry . . . 84-85
An Analysis . . . 48
Are You Scoring Yourself . . . 156
A State of Mind . . . 231
Capitalizing One's Leisure Time . . . 260
Can't Write Fallacy . . . 49
Carefulness . . . 49
Company Men at the Front . . . July 372
Corporation Employees . . . 231
Discipline . . . 291
Do Something . . . 122
Ideas . . . 49
Leading the Horse to Water . . . 49
Looking Ahead . . . 156
Loyalty . . . 261
Making Mistakes . . . 197
Night School Work . . . 123
Obligation . . . 354
Persistency . . . 157
Recipe for a Man . . . 387
Service . . . 231
Service and a Safety First . . . 386
Smile . . . 387
Success through Effort . . . 123
The Christmas Spirit . . . 196
The Public Library . . . 230
The Time to do Things . . . 355
Think Safety . . . 387

ELECTRIC GENERATION
Coal Consumption at Station 3 . . . 276
German American Button Company's New Sub-Station . . . 310
Installation of Two Self-Cooled Transformers at Station 35 . . . 368
The New 2250 KW Rotary Converter for Station 6 . . . 171

ENGINEERING AND CONSTRUCTION
Progress at Station 5 . . . 64

FISHER, E. H.
The Back Yard Garden . . . 345-347

FISHER, F. W.
Meeting of National Safety Council Congress . . . 158-160
The Company's New Vice-President . . . 375-377

GOULD, H. P.
The Company's Employment Bureau . . . July 365-367

GAS MANUFACTURE
An Adjustable Suction Pipe . . . 340
Cleaning No. 4 Water Gas Set at East Station . . . 367
Gas Mains throughout the city . . . 63
Problem of Boiler Feed Water at No. 10 Holder . . . 62
New Purifiers at the Gas Works . . . 172
Recovering Holder Oil at the Gas Works . . . 396
Value of Waste Heat Boiler at Gas Works . . . July 388

GENERAL
Accident Prevention Inspection Work . . . 234
A Garden for You . . . 361
Baseball Banquet . . . 390
Circulating Library for Women's Club . . . 233

INDEX—CONTINUED

GENERAL—Continued — Pages
Completion of New Stack Celebrated . . . 335
Discontinuance of Awards on Safety and Efficiency . . . 269
Educational Work N. C. G. A. . . . 269
Educational Work N. E. L. A. . . . 391
Eleventh Annual Picnic a Large Success . . . 87
Girls' Club Outing . . . 53
I am Strong . . . 160
Lectures for the Public . . . 391
Lecture on Electric Meters . . . 361
New Assembly Room . . . 259
New General Orders . . . 270
New Telephone Board at Andrews Street . . . 390
Night Shift in Order Department . . . 234
Practical Economy . . . 234
Reduction in size of Magazine . . . 390
Reporting Accidents . . . 390
Safety of the Family . . . 129
Silent Testimony to the Worth of Goggles . . . 105
Women's Club Annual Banquet . . . 199
Women's Club October Party . . . 130
Women's Club Outings . . . 377
Women's Club Red Cross Work . . . 360
Women's Club Second Annual Masquerade Ball . . . 269
Women's Club September Outing . . . 88
The Kiddies Second Party . . . July 376

GUNTER, N. H.
Triangulation Survey at Station 5 . . . 126-129

HAFTENKAMP, J. P.
Coal and Coke Conveying System for Station B . . . 89-92
Hydraulic Sluicing Work at Station B . . . 66
Station B Construction Progress . . . July 391

HALSTRICK, H. J.
Gasoline Testing at the Company Laboratory . . . 297-299

HARDING, HOWARD
Forced Draft Fan Equipment for Station 3 . . . 328-332

HERRING, FRANK
How a Gas Service Leak is Handled . . . 367

HODDICK, VINCENT
Testing Meters at the Gas Shop . . . 281-285

HOWES, F. J.
The Siphon Spill Way at Station 2A . . . July 378-380

HUTCHINGS, J. T.
What Should be our Attitude as Employees of the Company During the War . . . 326-327

KOHL, JOHN
Addressographing and Printing . . . 41-43

LAMEY, A. H.
An Effective Brake for Transporting Heavy Loads down an Incline . . . 302

LUNDGAARD, I.
Industrial Gas Engineering Problems . . . 286-289

MAC DOWELL, A. S.
New Methods Outlined at Recent Convention . . . 100-101
New Sub-Station at Leighton Avenue . . . 179-185

MARQUARDT, H. C.
Lamp Delivery by Parcel Post . . . 124-125

MEETINGS
Adjourned Annual Meeting of the E. B. A. . . . 390
Cooking Demonstrations at Convention Hall . . . 391
Empire State Gas and Electric Association . . . 33
Employment Managers Meet . . . 343
Meeting of Gas Production Committee of Empire State Gas and Electric Association . . . 391
Meeting of Electric Distribution Branch of the Empire State Gas and Electric Association . . . 138
N. C. G. A. Convention . . . 202
Office in Fairport . . . 391
Women's Club November Meeting . . . 160
Women's Club March Meeting . . . 391

MEYERING, BERNARD, JR.
Cement Testing at the Company Laboratory . . . 233-235

MILLER, FRED A.
Large Scale Maps used by this Company . . . 200-201

MILLER, P. J.
Accounting by Machinery . . . 37-40

MONTIGNANI, J. O.
Electricity from Generator to Consumer . . . 77-80
New Type of Lightning Arrester . . . 208-209
Reconstructing the Street Lighting System . . . 60-61

INDEX—Continued

Pages

PARKINSON, ROYAL
Arabs in the Gas Business 256-259

POEMS
Be a Booster . . . . . May Front Cover
A Swarm of B's 361
"Send it In" 372
America . . . . . April Back Cover
The Old Coal Stove 236
It's All in the State of Mind . . . . . March Back Cover
Light Verse 185
The Man Who Wins 185
Safety First Stories 375

PUTNAM, J. F.
Electrolysis Survey in Rochester 382-385

RISSBERGER, A. C.
Development and Manufacture of Incandescent Lamps 115-121
The Stars and Stripes 315-318

ROESER, EDW. A.
Electric Soldering Gold-Filled Spectacle Parts 319-321
Industrial Exposition Exhibit 88
The Lower Genesee River Gorge 351-353

RUSSELL, H.
The Heat Unit Standard in New York State 186-187

SCHWAB, C. M.
Succeeding With What You Have—November 1916

SCOBELL, E. C.
The Liberty Loan 388-389

SKUSE, W. F.
Welded High Pressure Gas Pipe Installation at East Rochester 73-76

STEWART, H. O.
Construction Work on Barge Canal 364
Electric Operation of Printing Presses 96-98
New System of Illumination in the Asbury M. E. Church 379-381
The New Illumination System at Convention Hall 145-147
The Use of Electricity in a Modern Sausage Factory 133

SULLIVAN, L. J.
Automatic Control of Rinsing Water Temperature 58
Baking Japanned Piano Plates in Gas-Heated Ovens 333-334
The Use of Gas in the Manufacture of Copper Rifling Rings 161-163

TAYLOR, FRANK
Automatic Control of a Synchronous Condenser 384-385
Illumination of Skating Rink at Eastern Widowaters 306

TID BITS.
"Why a Man Succeeds" . . . . . June Front Cover
James J. Hill . . . . . May Back Cover
Patriotism . . . . . April Front Cover
The Cheerful Man 325
Success . . . . . Mar. Front Cover
Twelve Things to Remember . . . . . Feb. Front Cover
Service First . . . . . Jan. Front Cover
Thrift . . . . . Dec. Back Cover

VAIL, J. H.
Experiences in Pioneer Electrical Engineering 188-195
Experiences in Pioneer Electrical Engineering 109-114
The Manufacture and Use of Oxygen 44-47

WAGNER, ARTHUR
Annual Survey of Company's Edison System 245

YAWGER, T. H.
The Old Whitney Mill 378

YEOMANS, B. B.
Automatic Control of Gas and Air Mixture supplied to Industrial Machines 95-96

GAS AND ELECTRIC NEWS

Vol. 5 SEPTEMBER, 1917 No. 3

The Electrically Operated Pumping Stations of the Rochester and Lake Ontario Water Co.

SYDNEY ALLING AND JOHN B. ALLINGTON

THE Rochester and Lake Ontario Water Company is operating a system supplying Lake Ontario water to a large territory east and north of the old city limits of Rochester. This territory includes the 23rd Ward, East Rochester, Fairport, and Lake Ontario Water Company has helped make possible the great suburban growth of Rochester.

The pumping station is located on the shore of Lake Ontario about 1¼ miles west of Lake Avenue, Charlotte. The water to be distributed is taken

Fig. 1. View of Rochester and Lake Ontario Water Company's Pumping Plant located on the shore of Lake Ontario about one and one-quarter miles west of Lake Avenue, Charlotte. The reader is looking east toward the Lake. Projection is addition recently built on.

Charlotte, Summerville and the territory north to the Ridge Road. Several large industrial plants take take considerable quantities of water, among these being the Kodak Park plant of the Eastman Kodak Company, and also various plants at Lincoln Park. The N. Y. C. and B. R. & P. railroads are also large consumers. The continuous extension of the system of the Rochester from the lake through a 24" cast iron intake pipe which extends into the lake 4000 feet from the shore. The water is drawn through this intake and pumped into the sedimentation basin by a 16" centrifugal pump driven by a 75 H.P. squirrel cage induction motor. An engine driven centrifugal pump is held in reserve for this work. Before the water reaches the low lift pumps it is

treated so as to destroy any plant or animal life, and precipitate any solids which may be carried in solution. The sedimentation basin consists of 4 long wooden tanks in series through which the water flows at very low velocity and any large particles carried by it are deposited here. From the basin the water flows by gravity to two suction wells and gravel filters connected in parallel, and then to the high pressure main. A Venturi meter tube is installed in the main just outside the Station and in connection with a meter in the engine room of the Station, it shows the rate of pumpage and the total amount of water pumped.

The distribution main which is a

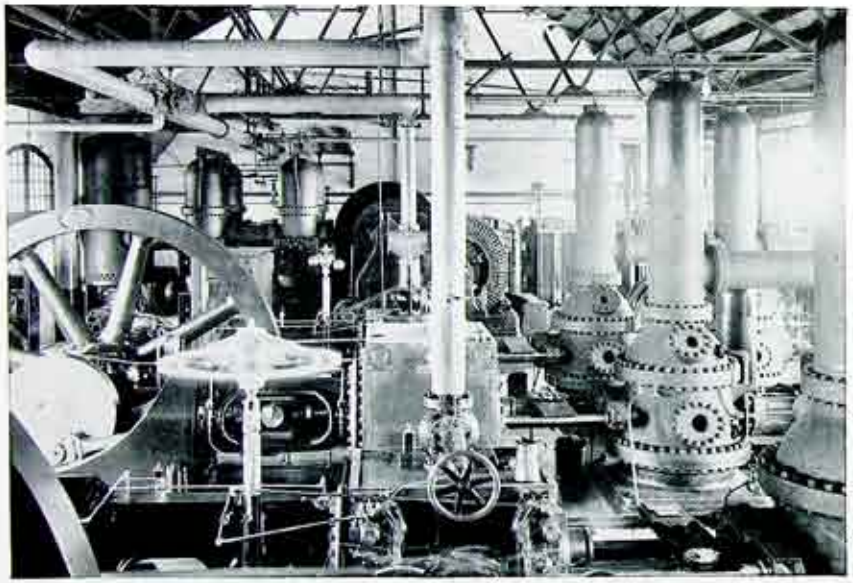


Fig. 2. Interior of Rochester and Lake Ontario Water Company's Pumping Station. Large steam driven units are in the foreground. Variable stroke electric driven pump can be seen in the background.

from which it is taken by the suction lines of the high pressure pumps.

The original high pressure pumping equipment consisted of 2 Wetherell steam pumps cross compound on the steam end, and duplex on the water end, each having a nominal capacity of 3,000,000 gallons in 24 hours. The actual capacity of each pump however is about 2,750,000 gallons per 24 hours. The steam for these pumps was supplied by 4-300 H.P. B. & W. water tube boilers. From the high pressure pumps the water passes through eight high pressure sand

20" cast iron pipe line with bell and spigot joints follows a general southerly route from the Station, running for the most part along the right-of-way of the B. R. & P. R. R. to Lincoln Park, then east along the New York Central R. R. through the City and south again to the reservoir on Cobb's Hill. This reservoir is a circular steel plate tank having a capacity of 3,000,000 gallons and is located about 750 feet northeast of the City reservoir. It insures a steady supply of water to the consumers of the Company when the

pumps at the lake are shut down, and also serves to stabilize the pressure on the system at all times.

The load of the water company increased to such an extent that in 1912 it became necessary to arrange for additional pumping equipment. Accordingly, a variable stroke pumping engine, having a capacity of 6,000,000 gal. per 24 hours was purchased from the Nordberg Manufacturing Company, and installed at the north end of the engine room. This pump is driven by a 600 H.P. synchronous motor through herringbone gearing. To supply the electric power, a three phase, 25 cycle, 11000 volt transmission line was built to the pumping station where a bank of three 300 KVA transformers was installed. The transformer bank serves the 600 H.P. synchronous motor, the 75 H.P. induction motor driving the low lift pump and a 200 KW rotary converter, which supplies power to the Manitou Beach Railway.

In 1915 it was decided to use the Nordberg pump for standby service and install motor driven centrifugal pumping equipment for continuous operation. This decision was based on the fact that the first cost and maintenance expense of centrifugal equipment is very much lower than for an equivalent reciprocating unit. A centrifugal pump is somewhat less efficient than a plunger pump, but it was felt that the above mentioned advantages would more than offset the lower efficiency.

To understand the operation of the centrifugal pumping equipment, an explanation of the load conditions at the pumping Station is necessary. The pipe line connecting the pumping station to the reservoir is 13 miles long, with customers tapped off at various points throughout the run. The static head at the pumping station is 173 pounds, and when pumping at the rate of 6,000,000 gallons per 24 hours, or 4200 gallons per minute, the pipe line friction causes the pressure at the pumping station to rise to about 245 pounds. The friction head is less at lower rates of

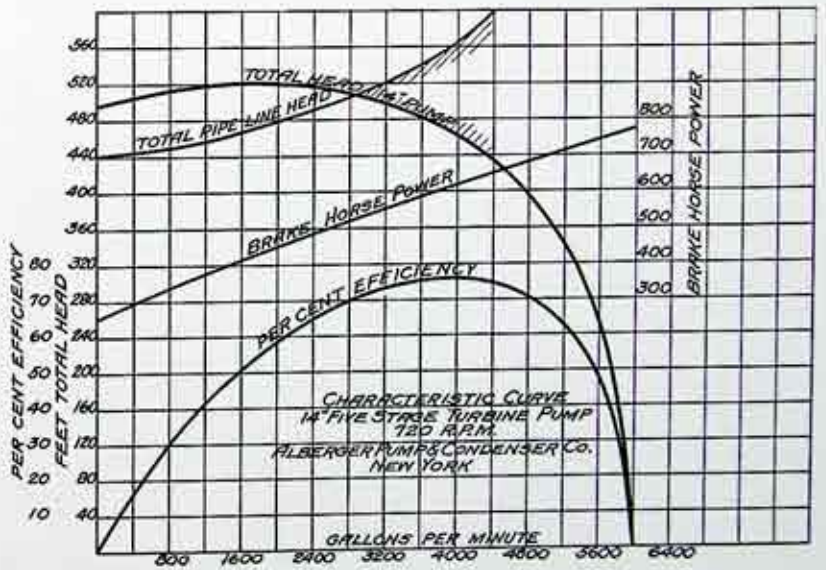


Fig. 3. Characteristic curves of fourteen inch, five stage turbine pump shown in figure 4.

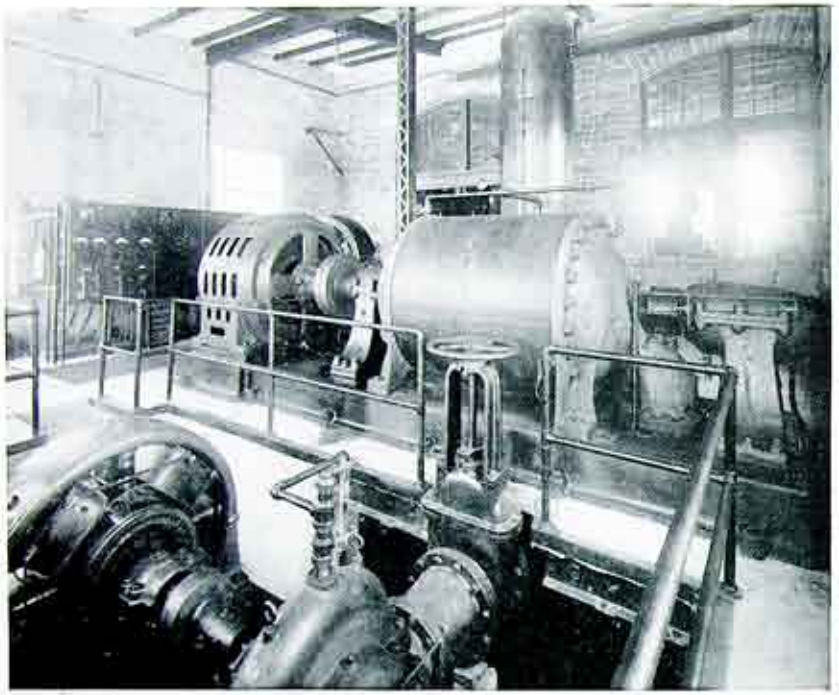


Fig. 4. General view of electric driven centrifugal pumps recently installed in the Pumping Plant. Booster pump can be seen in the foreground. Rotary converter is installed in the far corner.

pumpage, and it also varies to some extent with constant pumpage, depending on whether the water is being sent all the way to the reservoir or is used by consumers at some intermediate point.

These conditions are very unfavorable, for the efficient operation of a constant speed centrifugal pump in which the relation of head and volume follows a definite curve, and pressure control could only be effected by throttling. A pump driven by a variable speed motor would have accomplished the desired result, but no efficient variable speed alternating current motor is available in large sizes. It was therefore decided to install two pumps in series. The first, or high pressure pump, is driven at constant speed by a squirrel cage induction motor and is designed to supply 4200 G.P.M. against 190 pounds pressure. The second, or booster pump, is connected to the suction of the high pressure pump, and is driven at variable speed by a direct current motor. The booster pump supplies the variable pressure necessary to accommodate the changing conditions on the pipe line. The curves in Fig. 3 show the relation between the total pipe line head and that supplied by the high pressure pump. It will be noticed that as the pump pumps more than 2900 gallons per minute the pipe line pressure rapidly become much greater than the total head of the pump. The shaded area represents the additional head which must be supplied by the booster pump.

To accommodate the new pumping units, an addition was built on the

west side of the pump room as shown in figure 1. The new building was constructed of concrete blocks tinted to match the Medina stone of the main building. All the foundations are composed of concrete, while the roof consists of reinforced concrete carried on structural steel. The new addition houses the two centrifugal pumps with their control equipment and a 300 KW rotary converter for furnishing direct current to the booster pump motor and the Manitou Beach Railway.

The first high pressure centrifugal pump installed was a 12″ three stage pump built by a well known pump company. After installation, it was found that a bad distortion of the pump case was produced by the water pressure and careful tests showed the efficiency was very much below that guaranteed. These defects caused the rejection of this unit. The present high pressure pump was built by the Alberger Pump and Condenser Company. It is a five stage 14-inch pump running at 730 R.P.M. and direct connected on a common bedplate to a 600 H.P. General Electric squirrel cage induction motor. The shaft is supported by pedestal bearings, the outer bearing being a "marine thrust." At the discharge end of the pump, there is installed a 16″ check valve to protect the pump from water hammer in case of a sudden shutdown. A large air chamber with two 6″ relief valves is installed on the discharge line to protect the piping from water hammer. Figure 5 shows the general arrangement of piping for the centrifugal pumps, and figure 4 is a good general view of the equipment in the new addition.

The booster pump is a 12″ single stage, double suction pump built by the De Laval Steam Turbine Company. It is driven by a 200 H.P., 600-1200 R.P.M. variable speed DC motor and at 1200 R.P.M. has a capacity of 4200 G.P.M. against a maximum pressure of 60 pounds.

While installation work on the centrifugal equipment at the lake station was in progress, it became evident that some step would have

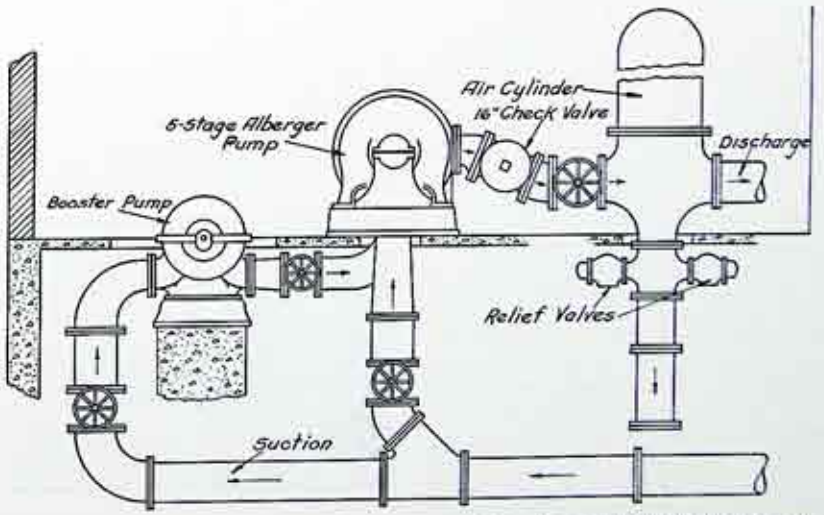


Fig. 5. Diagram showing connections of booster pump driven by variable speed direct current motor, and the five stage centrifugal pump driven by constant speed alternating current motor as shown in figure 4.

Fig. 6. Rochester and Lake Ontario Water Company's "booster" plant installed near the Ridge Road on the right of way of the Buffalo, Rochester & Pittsburgh Railway.

to be taken to increase the pipe line capacity to the City. As the cost of material for a new pipe line was very much above normal at this time, it was decided to increase the capacity of the existing pipe line by installing a booster pumping station at the Ridge Road.

A concrete block building with reinforced concrete roof as shown in figure 6, was erected adjacent to the pipe line about 200 feet north of the Ridge Road on the right-of-way of the B. R. & P. R. R. One room in this building contains 3-75 KVA 11000/12300 volt, 25 cycle transformers and the necessary metering and switching equipment. In the other room is installed a 16" single stage Alberger pump direct connected to a 200 H.P. General Electric squirrel cage induction motor. The pump is designed to handle 5900 G.P.M. against 43 pounds pressure. Valves and piping are arranged so that this unit can be cut in series with the pipe line at any time without interrupting the flow. It enables the water company to handle a pumpage of 6,000,000 gallons per day with a much lower pressure at the lake station. If a pressure of 245 pounds were carried at the lake station, as was done before the booster plant was installed, the pipe line with the booster plant operating would be capable of passing 8,500,000 gallons per day, an increase of 40%. This is one method of helping to concerve the nation's iron and steel which can be better used toward the successful conclusion of the war.

The centrifugal pump installations of the Rochester and Lake Ontario Water Company were designed by and installed under the supervision of the Industrial Department of The Rochester Railway & Light Co.

Fig. 7. Sixteen inch single stage centrifugal pump direct connected to 200 horsepower electric motor installed in building shown in figure 6.

The Proper Fuel for Brass Melting Furnaces

SAMUEL S. AMDURSKY

THE foundation of a brass foundry is its melting furnaces or its melting capacity, and one of the chief requisites, just as for any manufacturing establishment, is maximum production at minimum cost. A foundry may be equipped with up-to-date moulding and core making apparatus, but if the furnaces cannot be depended upon to produce a definite amount of material at definite intervals, no regulation or standardization of production can be obtained.

The majority of the local brass foundries are at present equipped with coal or coke fired pit furnaces. This type of furnace is invariably built with an up-right cylindrical chamber of some refractory material, the inside diameter of which is sufficiently large to not only hold a crucible, but also allow for packing the fuel around the crucible. In the bottom of the furnace is located a grate upon which the fuel rests, and the outside of the furnace is covered with a drumlike steel shell. A cast iron collar which has an opening equal in diameter to the inside of the furnace is located on top of the furnace, and is equipped with a cast iron circular cover which seals the opening as shown in figure 2. A flue connection leads from the furnace to the stack. Furnaces of this type are usually arranged in batteries of three or more, and are located in pits about seven feet deep, so that the tops of the furnaces are level with the floor. A run-way about three feet in width and the total depth and length of the pit covered with a grating of iron bars, is usually allowed for the removal of the ashes and the metal and also the repairing of the furnaces.

The operation of these furnaces is as follows: About 6:30 A. M. the furnace tender starts the fires with charcoal and wood, and when these are well burned, coal is "charged" and the crucible is inserted. The tender then begins to charge the crucible by placing in it scrap metal, borings, sprues and ingots. Lead, tin, zinc or other metals, depending on the specifications of the alloy to be melted are also added in varying quantities. The fuel is stoked and charged at short intervals to keep the fire hot, while added metal is charged into the crucible. When the metal begins to melt some charcoal is thrown into the crucible to help prevent oxidization of the molten metal. If the draft conditions are favorable and the fuel is of good quality, a number fifty crucible, having a capacity of one hundred and fifty pounds will be ready for pouring about 9:30 A. M., three hours after the furnace was started. The fuel is stoked down on either side of the crucible to allow the tongs to be placed around the crucible which is then lifted out and placed in a pair of shanks. The shanks consist of a circular ring having long handles provided for use in carrying the crucible. While in the shanks, the slag and charcoal are skimmed off and the crucible is poured off into the waiting moulds.

If the operations were conducted as smoothly as above described the foundry men would be relieved of many worries. In fact it is very rare to have the same conditions occur twice for the same kind and amount of metal melted in the same furnaces. The draft conditions cannot be depended upon, nor is the heat value of the coke or coal constant. Because of these facts, the time per heat is neither definite nor controlable.

Second, due to stoking the fuel

around the crucible, the pot may crack and as a result the melted metal runs into the fuel and down into the ash pit. If this should occur, less than half of the metal is reclaimable even at a considerable expense.

Third, in removing the pot from the furnace clinkers adhere to the sides and bottom of the crucible, making it difficult to remove the crucible, besides causing spattering and cracking and often times turned over pots.

Fourth, very often the fuel at the bottom of the furnace will be burned out completely. It is then necessary to raise the crucible and charge a fresh supply of fuel below it. Again, the fuel binds at the bilge of the crucible in which case the weight of the metal will sometimes cause the bottom of the pot to drop out.

Fifth, pieces of fuel are often poured into the moulds, resulting in defective castings.

Sixth, excess air is always present, resulting not only in high percentage of shrinkage, but it also soaks into the molten metal and later appears in the castings as blow-holes. Another serious effect that the excess air has, is the shortening of the crucible life due to the burning out of the carbon in the crucible structure.

Several of the local foundry men have considered using oil as fuel for their furnaces. A thorough investigation brought out the fact that this fuel is undesirable in a brass foundry, not only because of the high first cost of installation, but because of the many objectionable conditions obtained in the operation of a furnace using this fuel.

When burning oil fuel an excess amount of air must be used to increase the rate of melting. This is objectionable as pointed out before, because of its damaging effect on both the crucible and the castings. In order to get perfect and uniform combustion with this fuel it is necessary that the heat value of the fuel be constant, second, that the rate of flow be kept uniform and third, that the proper amount of air be supplied at a uniform rate and pressure. To obtain these ideal conditions is almost impossible. The oil very often clogs the transmission lines, thus giving a non-uniform flow. The heat value varies, so that if the air supply could be controlled, the proportion of air to oil would not be uniform, thus resulting in incomplete combustion and an excess of air. Another serious objection to oil fuel is its effect on new crucibles when the furnace is lighted. With an excess of oil entering the furnace, there being insufficient air for perfect combustion, the surplus moist oil gas will be forced against the crucible walls and lining producing what are known as "alligator cracks." Layers will peel from the crucible and furnace lining to a depth corresponding to the depth that the oil has penetrated. Wherever oil furnaces are used uncleanliness and disagreeable fumes exist, and the use of this fuel does not add to the health of the employes.

Because of the high first cost of the apparatus and the installation of the oil equipment, there is a correspondingly high depreciation and maintenance cost. Oil fuel is not always available due to embargoes and the demand for this fuel by the Government; these conditions result in increased prices. The fire hazard is increased considerably where oil fuel is used. Some Insurance Companies will not accept insurance on property where oil is used while others charge an excessive rate to cover the risk. There is always some capital invested in fuel storage which might be used to better advantage in other branches of the business.

It is evident that in order to obtain the best operating conditions in a brass foundry, a fuel should be used which can be depended upon for availability of supply, uniform heat value and to have no evil effects on castings. Gas is the only known fuel that will comply with these specifications. This Company has designed and installed several gas fired brass melting furnaces at one of the largest brass foundries in the City. That gas furnaces are more economical than any other type of furnace is obvious from the fact that the entire equipment of this foundry is being converted to gas. The construction and burner arrangement of these gas fired pit furnaces is shown in figure 1.

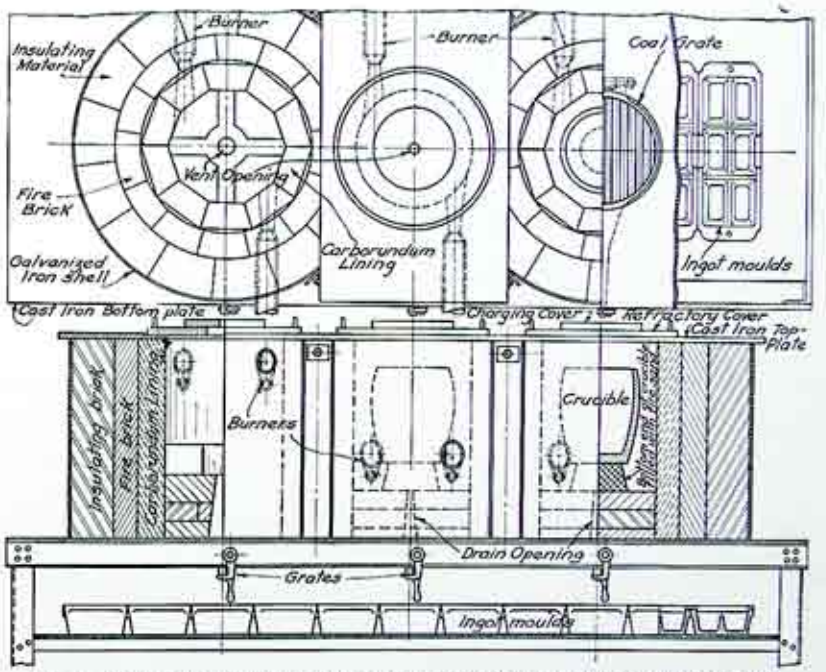


Fig. 1. Diagram showing general detail construction of brass melting furnaces equipped with gas burners.

Two types of furnaces were installed, the first or down draft type consists of a refractory lining "A" backed up by insulating material, "B" having located at its bottom a pedestal made up of quadrant fire brick with an opening in its center for ventilation. The burners are located tangentially and are pitched slightly downward so that the resulting flame will be well directed and its heat evenly distributed.

The second type, or natural draft furnace, consists of the same refractory lining and insulating material but has its vent opening in the top cover instead of in the bottom of the furnace. A pedestal "D" made of an old crucible, filled with fire sand and kaolin cement, is located at the bottom of the furnace for the crucible to rest on. The burners are arranged quite similar to that of the down draft furnace except that they are nearer the bottom of the furnace. In both types of furnaces,

Fig. 2. Pouring brass melted in coal fired brass melting furnaces. Note the clinkers which are adhering to the crucible. Insert shows proper grab tong to be used in lifting the crucible filled with metal from the furnaces.

arrangements are made so that in case the crucible should crack or break, the metal can pour down into a waiting crucible located underneath the furnace. After a series of tests, the down draft was found to be the more economical.

These furnaces were so designed that they could easily be converted to coal fired furnaces if the consumer so desired, but due to the good results obtained with gas, this feature was not taken advantage of.

The operation of a gas fired pit furnace is very simple indeed. About 7:30 A. M. (instead of 6:30 with coal) the furnaces are started and the heat is immediately available. The crucibles are charged as soon as they become heated to an orange color. No attention is paid to them except for charging the metal, and at the end of a definite time the crucibles are ready for pouring. Due to the time required to heat the furnace linings and crucible, the first heat for a number fifty crucible, requires from one to one and a half hours time. Thereafter heats may be run off at intervals of less than an hour.

When using a gas fired furnace either a reducing or oxidizing atmosphere may be obtained. By a *reducing atmosphere* is meant one in which complete combustion does not take place; that is, it lacks some air to give complete combustion. An *oxidizing atmosphere* on the other hand contains an excess of air. It is desirable, however, not to have any excess oxygen in the brass melting furnace in order that the shrinkage may be kept at a minimum. A mixture is therefore arranged in which no excess oxygen is present, and when once set it is kept constant. Because of this absolute control of the mixture, the oxidization of the metal is reduced to a minimum while the life of the crucible is increased. The life of a crucible is increased because no stoking of the fuel is required in a gas fired furnace, nor do clinkers adhere to the outside of the crucible to cause accidents by spattering or tipping. Another ideal condition that exists with a gas fired furnace is the fact that if a pot should crack, provision is made for the molten metal to drain into ingot moulds in which case *all* the metal lost from the crucible is reclaimable.

With a constant rate of gas consumption, a definite temperature may be obtained at the end of a definite interval, thus enabling a proper regulation to be made, and in turn a standard production.

With the gas furnace equipment, the moulding floor is no longer dependent on the furnace. On the contrary, the furnaces are dependent on the capacity of the moulding floor. This is due to the fact that from two to three times as many heats are available in the gas furnace as compared to a coal or coke fired furnace.

The metal poured from the gas fired furnace is free from foreign particles and self generated gases, giving a clean and uniform casting free from blow holes.

Gas fuel is always and immediately available at the furnace.

The heat value of the fuel is uniform.

As soon as the pot is removed, the gas is shut off and the cost of fuel ceases.

As for the cost per hundred pounds melted, a statement by one of the local foundry men is self explanatory: "I can well afford to pay two and three times as much for gas as I did for coal and still save money on the net cost per hundred pounds of metal melted because the saving in shrinkage will more than off set the increase in fuel cost."

One of the most important items to be considered in the pit type of furnace is the life of the crucible. Due to the present industrial conditions and the shutting off of the foreign supply, the price of the crucible to-day is from five to eight times what it was before the war. It is very essential then that proper care should be taken in heating and handling the crucibles. The demand for crucibles in this country is so great that the makers do not take the time to properly dry out the crucibles, and very often they are shipped "green." The crucibles when received should be stored on a shelf located in a dry atmosphere, and at room temperature, for ten to twelve

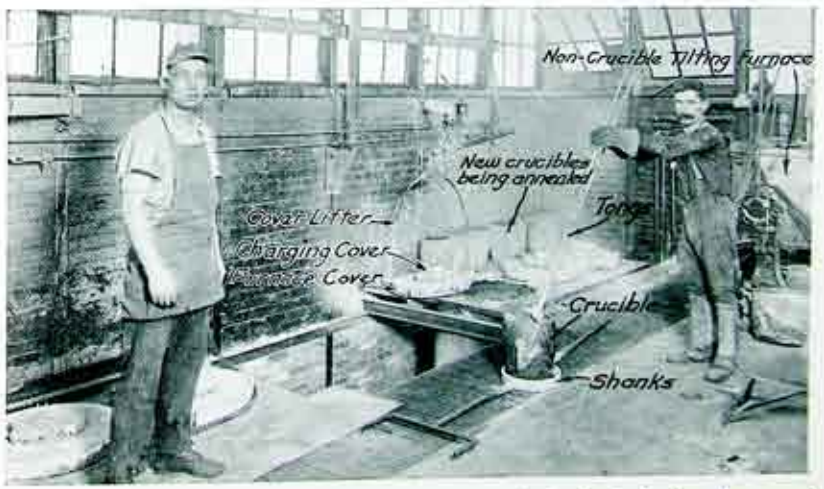


Fig. 3. View showing brass melting furnaces using gas as the heating fuel. Note the general cleanliness of the surroundings, and particularly the cleanliness of the crucible in comparison with the one shown in figure 2.

days. Before placing the crucibles in the furnace, they should be gradually "heated" from room temperature to about 250° taking several hours for the drying process. If the crucible is "heated" too quickly, the moisture which is always present in a new crucible, will rapidly flash into steam causing pieces to chip out of the crucible in the form of scale.

In handling the crucible when hot, it is important to have tongs so designed that they will grip the crucible properly, otherwise the weight of the metal will strain the crucible to such an extent as to crack it or cause the bottom to fall out. Tongs known as the "grab" type shown in figure 2 are to be preferred. In lifting the crucible from the gas furnace, care should be taken that it does not strike against the linings. This condition is not only detrimental to the crucible itself but may chip the lining of the furnace. It is advisable to prolong the life of the crucible materially by coating it with a paint made of carborundum fire sand mixed with water glass or some similar wash. A crucible should not be subjected to rapid changes in temperature because such changes in temperature result in excessive internal strains and cracking. It is desirable therefore that the crucible should be poured and returned to the furnaces as quickly as possible to prevent the temperature of the crucible from reaching too low a point. In a gas fired furnace the number of heats per day is from two to three times that of a coal furnace and the crucible therefore is not cooled to nearly room temperature as many times as in the coal furnace. Due to the design of the gas fired furnace, considerable heat is retained overnight, thus preventing the crucible from absorbing moisture. The life of the crucible is therefore prolonged and the furnace may be started up with full speed.

The life of the furnace lining may be greatly increased if before lighting up a freshly lined furnace a wood or charcoal fire is burned in the furnace. The linings are not only dried thoroughly by this process but a hard glazed surface is formed which adds to the life of the furnace lining. A wash made up of a mixture of 80% gannister and 20% fire clay, applied two or three times a week during the operation of the furnace will also lengthen the life of the linings considerably. If cracks appear in the lining they should be repaired with a fire sand mixture before lighting the furnace the next day.

Another type of gas furnace, one that requires no refractory crucibles and is very efficient for melting "red metal" (a composition being not less than 80% copper) is what is known as a tilting furnace. Several standard makes of this type of furnace are now on the market. The principal upon which the tilting furnace operates is similar to that of a reverberatory type of furnace; that is the flame comes in contact with the furnace lining and the radiant heat is reflected directly on to the metal. The furnace is tilted back and forth during a heat in order that the heat may be distributed effectively. Metal is piled up on top of the furnace to be preheated before it is dropped into the furnace, so that more of the heat which would otherwise be wasted is used up. A heat of 400 pounds of red brass may be had in less than one hour in this type of furnace, and the consumption is less than 300 cubic feet per 100 pounds of brass. If red brass is melted the shrinkage is comparatively low, but the tilting furnace is not economical for melting yellow brass because the percentage of shrinkage is too high.

After the metal is melted to a pouring temperature steel ladles lined with refractory material are used to pour off the molten metal into the waiting moulds.

The pictures we have taken bring back to us many pleasant vacation memories

GAS AND ELECTRIC NEWS

Published Monthly by the
ROCHESTER RAILWAY and LIGHT CO.
34 Clinton Ave. N., Rochester, N. Y.

FREDERICK W. FISHER . . . . *Editor*
ARTHUR C. RISSBERGER . . *Assistant Editor*
DWIGHT C. ROCKWOOD . . . *Photographer*

Department Correspondence Staff

Sales
FRANK A. TAYLOR . . . . *Industrial*
JOSEPH P. MACSWEENEY . . . *Domestic*

Electric Operation
ARTHUR S. WAGNER . . . . *Generation*
SIDNEY ALLING . . . . . *Distribution*

Gas Operation
WILLIAM H. EARLE . . . . *Manufacture*
FRANK HERRING . . . . . *Distribution*

Auditing
FREDERICK H. PATTERSON

Engineering and Construction
HOWARD HARDING

Vol. V SEPTEMBER, 1917 No. 3

Interdependence

"Am I My Brothers' Keeper?"

THIS is the cry that has come down through the ages and its source dates back to the time when man began to populate the earth. If we scan the pages of history, ancient or modern, we see these words or the equivalent idea expressed wherever the relations of men with each other are concerned. Our records show that the direct expression of this idea was first uttered when Cain was called to account for the death of his brother and his answer to the charge was the above introductory sentence.

Due to the unsettled conditions to-day this same idea is tending to permeate business, industry, the social and, in fact, every walk of life. The spirit that prompts this attitude of mind is one of selfishness. It makes the individual avoid responsibility of service and often renders him almost valueless to society. In the business and industrial realms it manifests itself by the lack of consideration for the welfare of others. There is a scarcity of co-operation between superiors and subordinates and between co-workers. It matters not how much we attempt to excuse ourselves from our faults, in our acts towards our fellow men we must remember that we are our brothers' keepers—we have a responsibility toward them. We must have consideration for the feelings and desires of those about us and when they are overtaken by misfortune, give them encouragement to overcome their difficulties and help them rise above the condition. In activities of industry where there are elements of danger encountered, everyone must not only safeguard himself but he must also have at heart the security of his fellow workman, and protect him whenever necessary.

We must realize that no man is independent but we are all interdependent. Adam Smith in "Wealth of Nations" has this to say in regard to this particular trait of man:

"In almost every other race of animals each individual when it is grown to maturity is entirely independent and in its natural state has occasion for the assistance of no other living creatures. But man has almost constant occasion for the help of his brethren, and it is in vain for him to expect it from their benevolence only."

Many of us think we are "independent," but our actions, our business activities, our pleasures, our sorrows, in fact our lives, all prove conclusively that we are inter-dependent in every way. All that is necessary is a truthful and searching moments reflection and introspection. Consciously or unconsciously we are our brothers' keeper.

Patriotism

IN these days of strife in international affairs the term patriotism is often uttered. Probably very few of us have ever thought just what the word means and for what it stands. To many it is the waving of the national flag and raising a shout when troops march by, or when a brilliant speech of national import is made. To others it is a thrill to the soul and a choking sensation in the throat that is experienced when the national air is played. Beyond these evidences little else seems to matter to them.

True Patriotism is larger and deeper than all this. It is a deep unwavering, undivided love for the country whose noble institutions and laws as made by its people for its people, protect them and enable them to live and conduct their daily pursuits with the greatest freedom for the good of all. We must believe so strongly in our country's institutions and principles that we would be willing to undergo any limit in the sacrifices that might be necessary in order to protect it from any nation who might seek to injure or destroy it directly or indirectly. We have a sacred duty of citizenship which must be performed at all times. Those who are not citizens and are enjoying the freedom and laws of the country, owe it to this government to stand squarely behind it. Furthermore, it is unquestionably their duty to become citizens at once. Patriotism means love of the country whose privileges one enjoys and a zealous support of its authority and interests at all times. Are you an American Patriot?

⚜

How the War Came to America

"HOW the War Came to America" is the title of a publication issued by the Committee on Public Information. The Secretary of State, Secretary of War, Secretary of Navy and Mr. George Creel are members of the Committee. Everyone should read this booklet and become familiar with the official status of why we are at war. It may be obtained by sending name and address to The Committee on Public Information, Washington, D. C.

⚜

Successful Men

IF I don't trust a man, I don't give him responsibility; if I do trust him, I let him alone. I want my men to think for themselves. I want them to come to me with a decision, not for a decision. I expect them to handle their jobs as they see fit, knowing that they will have to answer to me only for results. Our superintendents and foremen deal with the men under them in the same spirit. Many of these half-way folks get by, but they never get far. There is always a premium in business on the man who does his work painstakingly, with completeness and finality; he is the man who will be trusted with more and more responsibility, up to the limit of his capacity. The man who informs himself adequately about his firm, its methods, its policies and its products, who does his work so well that no one need follow him up to patch the ragged edges, is on the safest, surest and shortest road to achievement. If, in filling an important position tomorrow, I had to choose between a man of ordinary ability who had trained himself in our employ, and a man from the outside, apparently more brilliant, I would not hesitate a moment in deciding. The Home-made product would get the job. If the day ever comes when this Company will have to go outside its organization for its leaders, I shall feel that we have failed to live up to our opportunities and our ideals.

—J. Ogden Armour.

The Employes' Twelfth Annual Picnic

THOUGH Jupiter Pluvius made the early part of Thursday, August 30th, rather moist, he had no effect on the ardor of over eight hundred of the Company's employes who went to Manitou Beach for the day to forget that there was such a thing as work by indulging in all kinds of sports to say nothing of the tempting refreshments and dinner. At about ten o'clock old Sol's beaming face was again seen through the clouds, the rain was over and the sports began. As these were progressing, those not participating in them were renewing old acquaintances and meeting the new employes.

Those of amphibian inclinations did not waste any time getting into the cool, refreshing waters of Lake Ontario where voices were exercised as vigorously as were the bodies in the activities.

The refreshment stands were in evidence, and Earl Harrington again displayed his ability as a provider of almost unlimited quantities of rolls, hot sausages, lemonade, peanuts and ice cream cones which were eagerly sought by the happy picnickers throughout the day.

At twelve o'clock a most delicious hot fish and chicken dinner was served at the Hotel Manitou.

THE DINNER CARD

Olives Radishes
Clam Chowder
Broiled White Fish
Served with Lemon and Creamed Potatoes
Broiled Chicken
Boiled Potatoes Green Corn
Tomato and Lettuce Salad
Apple Pie Coffee

The attraction that commanded the interest of all was the baseball game between the Blondes and the Brunettes. Miss Elizabeth Masters captained the former and Miss Florence E. McElligott the latter. The Blondes defeated the Brunettes by a score of 6—5.

Another ball game that was a great attraction was that between the Steam Fitters, captained by Mr. Frank Schaefer, and the Station 3 Repairmen, captained by Mr. Phaler. The former team won.

In the other sports the keenest contestants in the lists were the ladies and many of them succeeded in breaking some of the Company's athletic records. The events and the results are as follows:

One hundred-yard dash for men—First, Mr. Manie Freedman; second, Mr. William Kelly.

Fifty-yard dash for women—First, Miss Florence McElligott; second Miss Mildred Berg.

Shoe race for boys and girls under 12 years of age—First, Mr. William Thompson; second, Mr. D. Byrnes.

Sack race for men—First, Mr. Samuel Lunstchoff; second, Mr. John DeJones.

Three legged race for men—First, Messrs. John and James Wright.

Marshmallow race for women—First, Miss Alice Brady; second Miss Nicola.

Pie-eating contest for boys under 12 years—First Mr. Thomas Perino; second, Mr. Francis Goreus.

Clothespin race for girls under 12 years—First, Miss Mary Perno; second, Miss E. Farnum.

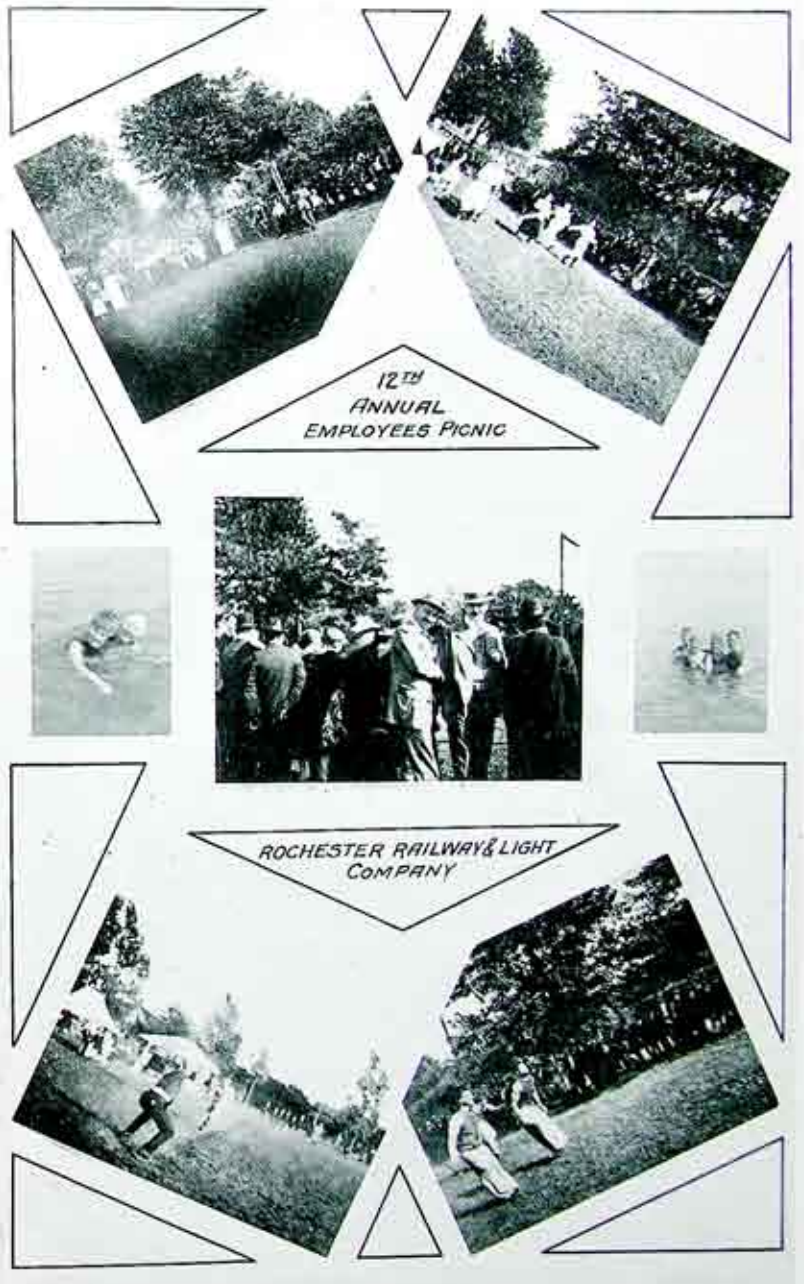
Backward race for men—First, Mr. Elmer Hutter; second Mr. E. Schneider.

Nail-driving contest for women—First, Mrs. Proddick; second, Mrs. Farnum.

During the afternoon and evening many enjoyed dancing. The music of the 54th Regiment Band under the direction of Mr. Fritz Zeitler added much to the gaiety of the occasion.

Great credit for the success of this social event is due to the activities of the General Committee and those who assisted it. The following is the personnel of the General Committee:

Mr. V. C. Hoddick, Chairman; Mr. F. C. Herring, Secretary; Mr. W. C. Gosnell, Treasurer; Mr. J. P. MacSweeney, Publicity; Messrs. Thomas Christie and P. J. Martin, Transportation; Messrs. E. B. Harrington, J. J. Logan, Refreshments; Mr. W. J. Consler, Sports; Messrs. P. J. O'Neill, W. H. White, Music. Chaperon, Pa Chas. Dowd.



In the Accident Path

Mr. Raymond Hauck, of the Electric Meter Department, was installing a service riser on a house at Floverton Street when the pipe slipped and struck him on the head, cutting and bruising same.

Mr. Fred Blakeslee, of the Gas Works, was driving a nail with a hammer which struck a nearby valve and glanced off striking Mr. Blakeslee on the wrist. An X-Ray examination showed that end of small bone in the wrist was broken.

Mr. Leo Klein, of the Underground Department, was bitten on the hand by a cat while he was removing her from a pole. The cat had apparently been on the pole long enough to become wild.

While breaking rock in a trench, the handle of the sledge hammer broke and a large splinter entered the thumb of Mr. Charles Dambra's left hand.

Mr. Herbert Morgan, of the Line Department, was moving crossarms, and while lowering a crossarm off his shoulder, a nail on the side of the crossarm cut the palm of his right hand.

While assisting in the raising of a concrete pole, Mr. Earl Foley, of the Line Department, had his foot injured by a fellow lineman, who was working in back of him, and who suddenly stepped on Mr. Foley's foot as they started to raise the pole. Right foot was cut by lineman's spur.

Mr. William Hill, of the Electric Construction Department, strained his foot while pushing on some cable.

❖

"A habit of caution costs nothing. It saves many hospital bills and many tragic griefs. Teach it to the children!"

Opportunity

Fortune came and loudly knocked
At my door with cheery hail;
But, alas, for Fortune's labors,
I was over at my neighbor's
Pouring out a hard-luck tale.

Exposition Exhibit

The Company's display at the Rochester Industrial Exposition held during the week of September 3rd, was contained in four booths located on the center aisle, and consisted of domestic gas and electric appliances.

The gas display contained various styles of cabinet and square ranges, different types of water heaters and, also, a display of Radiantfire Heaters. As an aid in the National campaign for food conservation the Company also had on exhibition a large glass case of canned goods which had been canned at the regular weekly demonstrations at the Main Office and at Convention Hall. One of the demonstrators was in attendance at all times busily answering many questions regarding the canning of the various canned articles on display. Canning and preserving demonstrations were also given daily at 2 P. M. in the Assembly Hall in the Park, this work being done in connection with the Monroe County Home Defense Committee.

The electric display consisted of toasters, percolators, curling irons, heat pads, sew-e-z motors, vibrators, vacuum cleaners, washing machines, ironing machines, in fact all electric appliances which help make the home comfortable. Both the electric salesman and the lady demonstrator were kept very busy answering unlimited inquiries regarding the application of electricity for domestic purposes.

The Company's display is changed somewhat each year, and one of the outstanding features this year was the arrangement of easy chairs and desks which were placed in the booth for the convenience and comfort of the public. The arrangement of the display was under the supervision of Mr. Charles F. Schake.

"I believe that a man should be proud of the city in which he lives, and that he should so live that his city will be proud he lives in it."—*Abraham Lincoln.*

New Badge for Employes

All employes of the Company whose duties may necessitate their gaining access to the customer's homes, are provided with a new specially designed badge, as shown below.

The badge is made of white metal, and is finished in red, white and blue enamel, thus making it very distinctive and readily recognized. The large letter "R" is red on a white background, and the Company's name is in white letters in the dark blue border. All employes and the Company's customers should be familiar with this identification button which is worn for their protection.

❖

Free Renewal of Carbon Lamps Discontinued

Ever since the Mazda Lamp made its appearance on the market this Company has persistently kept before its patrons the fact that it costs twice as much to operate a carbon lamp as it does to operate a Mazda Lamp of equal candlepower. Newspaper advertisements, window displays, and the spoken word of the Company's Engineers, Salespeople, and Employes generally have all been used to carry this simple but vital message to the users of electricity. The war has helped more than anything else to bring home to the American people within a very short time the fact that they are comparatively extravagant and wasteful in a great many ways. At the present time the demand for carbon lamps is very small, and furthermore, as a measure toward National economy, it is essential that the carbon lamps be withdrawn from the market. Where coal is used in the manufacture of electrical energy, for instance, wasted electrical energy means wasted coal and coal is a very vital necessity. The free renewal of these lamps by this Company was discontinued on September 10th.

A Million Horsepower for Battleships

The authorized electrical equipment for U. S. Battleships and battle cruisers totals more than one million horsepower. Each of the last seven battleships—equipment for which has already been ordered, requires approximately 33,000 horsepower. Each of the five battle cruisers requires 180,000 horsepower to propel. The cost of equipment of the super-dreadnoughts amounts to approximately one million dollars each, according to recent reports of the contracts let by the government.

Each Battle Cruiser carries four high speed turbine driven generating units. The power of which is delivered by eight huge motors to four shafts turning at full speed about 250 r. p. m. and driving the ships at 35 knots.

In addition to the main generating equipments and propelling motors, each ship carries auxiliary turbine generators of a capacity of 2500 KW for supplying light and power throughout the ships. Practically all work aboard ship is electrically done, from raising the anchor to steering. Electricity is used also for cooking on many U. S. war craft.

Mutually Embarrassing

An Irishman whose face was so homely that it seemed an offence to the landscape was met by a neighbor, who asked:

"Well, Pat, how are yez these days?"

"Bad; mighty bad; sure, 'tis starvation starin' me in the face."

"Begorra!" exclaimed his neighbor sympathetically, "It can't be very pleasant for either av yez."

❖

"Look not mournfully into the past, it comes not back again; wisely improve the present. It is thine. Go forth to meet the shadowy future without fear, and with a manly heart."—*Henry W. Longfellow.*

Judicial Saving Will Help Win the War

IN THE great fight for democracy in the world war, every man, woman and child in the United States will have a very active part. In order that our troops and those of our allies may be successful on the battle line, those engaged in civil pursuits must do their utmost to produce equipment, arms, munitions and food in immense quantities. The problem of food production is very vital and the solution of which is most complex.

Though the country is looking forward to a bumper crop of wheat, corn, potatoes and other necessities of life, we must not lose sight of the fact that we must not only be economical in the use of these for this year but also to guard against a possible shortage during the next two or three years. To accomplish this end it will not be necessary for anyone to be deprived of his proper quota of food; he should eat as well as before and at a lower cost by giving greater attention to the selection and preparation of foods. Too great emphasis cannot be placed on this as it is the governing part in the solution of the problem.

For many weeks Mr. Herbert Hoover, Food Administrator of the United States, and his corps of assistants have formulated the following detailed but simple rules for aiding the consumer in conserving the food supply at this critical time.

SAVE THE WHEAT.—One wheatless meal a day. Use corn, oatmeal, rye or barley bread and non-wheat breakfast foods. Order bread twenty-four hours in advance so your baker will not bake beyond his needs. Cut the loaf on the table and only as required. Use stale bread for cooking, toast, etc. Eat less cake and pastry. Our wheat harvest is far below normal. If each person weekly saves one pound of wheat flour that means 150,000,000 more bushels of wheat for the Allies to mix in their bread. This will help them to save DEMOCRACY.

SAVE THE MEAT.—Beef, mutton or pork not more than once daily. Use freely vegetables and fish. At the meat meal serve smaller portions, and stews instead of steaks. Make made-dishes of all left-overs. Do this and there will be meat enough for every one at a reasonable price. We are to-day killing the dairy cows and female calves as the result of high price. Therefore, eat less and eat no young meat. If we save an ounce of meat each day per person, we will have additional supply equal to 2,200,000 cattle annually.

SAVE THE MILK.—The children must have milk. Use every drop. Use buttermilk and sour milk for cooking and making cottage cheese. Use less cream.

SAVE THE FATS.—We are the world's greatest fat wasters. Fat is food. Butter is essential for the growth and health of children. Use butter on the table as usual but not in cooking. Other fats are as good. Reduce use of fried foods. Save daily one-third ounce animal fats. Soap contains fats. Do not waste it. Make your own washing soap at home out of the saved fats. Use one-third ounce less per day of animal fat and 375,000 tons will be saved yearly.

SAVE THE SUGAR.—Sugar is scarcer. We use to-day three times as much per person as our Allies. So there may be enough for all at reasonable price use less candy and sweet drinks. Do not stint sugar in putting up fruit and jams. They will save butter. If everyone in America saves one ounce of sugar daily, it means 1,100,000 tons for the year.

SAVE THE FUEL.—Coal comes from a distance and our railways are overburdened hauling war material. Help relieve them by burning fewer fires. Use wood when you can get it.

USE THE PERISHABLE FOODS.—Fruits and vegetables we have in abundance. As a nation we eat too little green stuffs. Double their use and improve your health. Store potatoes and other roots properly and they will keep. Begin now to can or dry all surplus garden products.

USE LOCAL SUPPLIES.—Patronize your local producer. Distance means money. Buy perishable food from the neighborhood nearest you and thus save transportation.

GENERAL RULES.—Buy less, serve smaller portions. Preach the "Gospel of the Clean Plate." Don't eat a fourth meal. Don't limit the plain food of growing children. Watch out for the wastes in the Community. Full garbage pails in America mean empty dinner pails in America and Europe. If the more fortunate of our people will avoid waste and eat no more than they need, the high cost of living problem of the less fortunate will be solved.

HERBERT HOOVER, United States Food Administrator.

GARDENS LOCATED ON ROSLYN ST.

POTATOES PLANTED IN PLOT ON ST. PAUL ST. OPPOSITE AVE. C

GARDEN ON THE FLATS ON WEST SIDE OF RIVER NEAR THE MIDDLE FALLS.

EMPLOYEES AT THE BRIGHTON GAS HOLDER WERE SUCCESSFUL AS GARDENERS.

THE CONCRETE POLE YARD ALSO SERVED AS A GARDEN SPOT.

Many employes of the Company took advantage of the Company's offer to supply them with large tracts of land for gardening purposes. The above pictures speak for themselves. On the whole the gardens were a decided success. Are you going to plant a garden next year?

Gas and Electricity in the Home

BY THE GAS DEMONSTRATORS
Miss Frances E. Moore, Miss Mona A. Pratt and Miss Irene Walsh

Drying

DRYING is probably the oldest known method of food preservation, but unfortunately during the last few years it has fallen into disuse. Cold storage, rapid transportation facilities, together with the extensive commercial canning has made drying an almost unnecessary art. The present food crisis together with the difficulties of getting food from one part of the country to another and the shortage of glass cans has revived many of our grandmother's methods of food preservation, and among them that of drying.

There are several methods for drying that have been found satisfactory. Of course the easiest method would be to dry in the sun, but this is hardly practical in Western New York because of the few successive sunny days. If drying is done in the sun, precautions against dust and insects must be taken. The gas oven is a very satisfactory drying apparatus—the vegetables or fruit to be dried may be spread on plates and dried in a slow oven. More efficient results can be obtained by using trays made of wire screen with screen edges bent up so that the oven capacity can be used more fully and more food can be dried at a time. There are commercial driers on the market suitable to use on a gas range, which are essentially a duplicate of the homemade drier shown in the accompanying illustration. In fact any piece of homemade apparatus that provides means for free circulation of air and for regulating the temperature is likely to prove satisfactory. The drier illustrated confines the heat in a given channel during its upward course through the trays of food and so uses the heat economically.

As drying should be done at a low temperature, starting at about 110 degrees Fahrenheit and gradually raising to 140 degrees Fahrenheit, a thermometer is almost a necessity. An oven thermometer may be bought at a slight cost or the ordinary chemical thermometer may be suspended in the oven or drier. The actual time for drying cannot be given and the person in charge must exercise judgment on this point. A little experience will make it easy to determine when products are sufficiently dried. When first taken from the drier, vegetables should be rather brittle but not so dry as to snap or crackle. Fruits should be rather leathery and *pliable*.

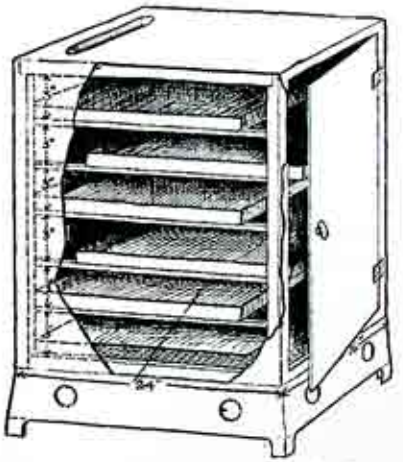
CONDITIONS BEFORE STORING

It is important to condition dried products before storing them for the winter. This means that they should be placed in boxes and poured from one box to another once a day for three or four days to mix thoroughly. If any part of the material is then found to be too moist, it must be dried again for a short time.

PREPARING FOOD MATERIALS FOR DRYING

Vegetables and large fruits are usually cut into small pieces or strips to facilitate the drying. However, they should not be so small as to make them hard to handle or to keep them from being used to advantage in preparing dishes for the table such as would be prepared from fresh products. If one is drying large quantities, it is well to have a chopper or slicer to do this work.

Vegetables should be young and tender, and fruit not over ripe. Root vegetables should be washed thoroughly and usually peeled. One single decayed root will injure the flavor of a large quantity of food, so care must be taken in selecting material. Blanching is desirable for successful vegetable drying. This gives a better cleaning, removes all strong odors and flavors and loosens the fibre so that the evaporation is accomplished in less time. This is done by placing the vegetables in a piece of cheesecloth or wire basket and plunging into boiling water. The



A home made drier which can be placed on a gas stove. Fruit and vegetable driers for use on a gas stove can also be purchased. The Demonstrators will be glad to give you information regarding them.

time of boiling varies with different vegetables. Blanching should be followed by the cold dip which means plunging the vegetables into cold water for an instant after removal from the hot water. This dipping hardens the pulp and causes vegetables to retain their original coloring.

The storage is as important as the drying process itself. The containers available to most people are baking powder cans and similar covered tins, pasteboard boxes having tight fitting covers. Strong paper bags may also be used. These should be stored in a cool, dry place, well ventilated and protected from rats, mice and insects.

Moisture may be kept out of paper bags by coating them or brushing over with melted paraffin. Another method is to pack the bags in a pail with a tight fitting lid.

In preparing dried vegetables and fruits for use the first process is to restore the water which has been dried out of them. In general the longer the drying process the longer the soaking required.

SWEET CORN

Select ears that are young and tender and freshly gathered. Blanch on cob about five minutes. Cold-dip, drain thoroughly, cut off the cob taking care not to cut off pieces of the cob. Spread on trays and dry, stirring occasionally.

CORN (COOKING)

Soak the corn for 2 to 4 hours in water, using 2 cups of water to 1 cup of corn. Some housekeepers prefer to soak it overnight, but if this is done the corn should be kept in a very cool place so that it does not sour. Cook the corn in the water in which it was soaked for an hour or more. Then season with butter, salt, and pepper, and, if desired, a very little sugar also. Some housekeepers prefer to add milk to the water in which the corn is cooked or to use cream in place of butter for seasoning it.

BULLETINS

Farmers Bulletin 841—United States Department of Agriculture.

Cornell Reading Course for the Home—Lesson 113—"Food Preservation: A National Challenge."

The Circus He Had Eaten

Little Freddie had just made his first acquaintance with animal crackers. After eating quite an assortment of them Freddie became very thoughtful.

"What makes you so pensive, dear," asked his mother.

"Oh, I was just thinking what a circus was going on inside of me."

Sales

Lighting Changes for the Rochester Exposition

This year it was proposed to have open air dancing in the "Peristile," i. e., the open space between the two rows of large columns, at the entrance to Exposition Park. A water fall was installed at one end and it required approximately 300 gallons a minute to flow over a 6½ foot crest and drop 9 feet into a large tank resting on the floor. The dancing space was illuminated by means of projectors equipped with color screens. This feature of the Exposition proved to be a decided hit.

The large American Flag in the center of the quadrangle was illuminated by means of five 500 watt General Electric projectors and one 1000 watt projector, and the grass plot surrounding the pole was illuminated by four 1000 watt lamps.

A change was also made in the illumination of the Band Stand. With the old system, glass reflectors were used with 100 watt type "C" lamps. These glass shades do not screen the bright light from the eyes of those in the audience, and they have, therefore, been replaced by opaque steel shades which cover the lamp and do not allow any light to pass directly into the eyes of those in the audience.

❖

The Victor Milling Company of Victor has purchased a 35 H.P. 440 volt, 25 cycle induction motor and will install this motor in its grain mill at Victor. The 150 H.P. motor at present installed in the mill is considerably overloaded necessitating this additional equipment.

The National Brass Works on Mill Street has installed a 40 horsepower motor for driving a large air compressor. The compressed air is furnished to various machines and devices throughout the foundry which require air.

❖

The N. L. Lockhart Company, 373 North Street has replaced its Augenstine rotary steam engine rated at 35 HP with a 40 HP motor. This electric installation was made possible on account of the high steam consumption of the rotary engine.

❖

Plans and specifications have recently been prepared by the Industrial Sales Department to cover the complete re-wiring of the auditorium of the Sunday School and the Parish House of the Church of the Reformation.

❖

The Lawless Brothers Paper Company will soon make extensive changes in its paper mill at East Rochester which will necessitate considerable increase in their power requirements.

❖

The Symington-Anderson Company will install two large electric furnaces which will be used for heating gun jackets. The furnaces are of the resistance type and each will take 37 kilowatts.

❖

The Crowell-Lundoff-Little Company, which is working on the new Gun Plant of the Symington-Anderson Company has installed a 4 H.P. motor on a saw.

❖

The Genesee Bridge Company has installed a 15 horsepower motor for driving an air compressor on its construction work at West Station.

❖

The Vogt Manufacturing Company, 408 St. Paul Street, is installing approximately 3 Kilowatts of lights in the loom room of its factory.

❖

The M. D. Knowlton Company has recently connected 25 horsepower additional power load to this Company's service.

❖

Voelkl Brothers, 274 Ames Street have purchased and installed a 2 H.P. motor to run a nine foot shoe repairing machine.

❖

Mr. M. E. Phillips, of Pittsford, has installed a 30 H.P. motor for operating his grist mill.

A few recent Gas Installations

The Gillies Lithographing and Printing Company has ordered burners to be installed on three of its printing presses, to remove static electricity.

The Asia Restaurant has purchased a Garland Hotel Range, a Garland broiler and three Chop Suey stoves.

The L. F. Englert Machine Company has purchased a high speed steel furnace for heat treating tools and dies.

The Mandarin Restaurant has purchased a combination broiler and special burners for three Chop Suey stoves.

The Parker Rishor Company has installed two steam jacket gas heated kettles for making a special kind of soap.

The Lake Avenue Baptist Church has purchased two sections of Garland Hotel Range and a 5 gallon Battery Coffee Urn.

The North West Aluminum and Brass foundry purchased one enameling oven and gas equipment for its coke heated core oven.

The Oregon and California fruit Company has purchased a Candy furnace.

The Hotel Beechwood has installed a Garland Hotel Range to displace an old coal range.

Electric Distribution

New Field of Usefulness

Working recently in the southeastern part of the City, Mr. John Logan, while on top of a pole, discovered a wireless aerial on flat roof of a building, which was not visible from the street. He reported his discovery to the U. S. Marshal's Office and the wireless was dismantled. This opens up a new line of usefulness to our country for linemen and Mr. Logan is to be congratulated on his observing same, also his patriotism in reporting it.

❖

On Monday, August 20th, Mr. A. Woodhead and Mr. L. Klein, troublemen in the Electric Distribution Department, removed a cat which had been on top of a pole on Kosciusco Street for three days. The cat was wilder than a hare and the men were compelled to lasso it in approved western style. After the cat had been removed from the pole, while endeavoring to remove rope from the cat's neck, Mr. Klein was quite severely bitten on the second finger of his right hand. The wound was immediately cauterized by Dr. Killip. The cat was killed by Mr. Woodhead and taken to the Humane Society for investigation of rabies, as a small child in the neighborhood was also bitten before the cat was killed.

To be a safe man is an obligation you owe.

Gas Manufacture

New Dappled Gray Team for East Station

The new dappled gray team which was bought for East Station last June, appeared in the Draft Horse Event at the Horse Show on Labor Day. Besides the new team the Company has another pair of old horses which has been at the plant for several years, and are called Tom and Jerry. The new team is also named Tom and Jerry, and the driver, Mr. John Muszynski doesn't want to undertake the task of teaching them new names in spite of the prohibition agitation.

This beautiful pair of dappled grays used at the Gas Works, tip the scales at 2700 pounds. They were purchased by this Company to replace the team which drowned in June by sliding into the Genesee River with a section of the river bank at the East Gas Works.

Water Gas Machine Repaired in Time to Meet Maximum Gas Sendout

Repairs to No. 4 water gas machine, which were undertaken early in August, were completed at an opportune time. This machine is the largest unit at the plant, having a daily capacity of 3,500,000 cubic feet. The machine required a thorough overhauling to get it in reliable condition for the fall load. The repairs occupied over two weeks. Carburettor and superheater were recheckered, generators were relined, hot valves and blast valves were changed, and extensive repairs were made to the lining of the gas branch from the machine to the waste heat boiler. Besides that both of the generator shells leaked at the bottom and steel patches had to be put on. The work was done in such a way that the machine was at all times ready so that it could have been put back into service in a few hours time in case of emergency. As sendouts increased during the last days of repairing, the gas supply began to disappear from the holders. The machine was put back into service on Sunday, August 26th, and on Tuesday, August 28th, the Department had the maximum sendout of its history, namely 7,609,000 cubic feet. However, the Gas Manufacturing Department says that it expects to beat that record this fall.

❖

New Gas Pressure Controller

A device has been installed at No. 10 Holder whereby the valve controlling the pressure on the East Rochester Line can be manipulated in the boiler room at a point on the wall adjacent to the pressure chart. The device is a simple combination of sprockets and chain operated by a propeller wheel mounted on the wall. The installation enables the man on duty to carry a much more even chart than was otherwise possible.

❖

Standby Gas Pumps for East Rochester Service

The 10 x 15 Boston Type Gas Pump built for the East Rochester service, has been received at No. 10 Holder and is now being installed. This pump will serve as a stand-by unit with the present motor driven pump. It will be driven by a gas engine operated by manufactured gas directly out of the holder, and will thus be able to carry the load in times of electrical trouble.

❖

Mr. H. T. Deskins, of Washington, D. C., is at East Station as Superintendent of the Rochester Light Oil Plant, operated by the Pittsburgh By-Product Coke Company.

❖

Half of the authorized retaining wall on the Gas Street hill is now complete. The work is being done by Thos. Holahan & Son.

❖

Speaking of Dog Days, the Gas Manufacturing Department has them in practical form. A watch dog has just been acquired as companion for the watchman at the Blossom Road Holder. Dog biscuit, collars, licenses and so forth are now being purchased for his majesty of the "dog watch."

Gas Distribution

On August 25th, 1917 a service of extraordinary length was installed for industrial purposes at the plant of the General Filteration Company, Manufacturers of Water Filters in East Rochester.

This service consists of a 2" black steel pipe, 582' long with all joints welded. The service was welded to a 4" main, and instead of the main being tapped, as is the general rule, it was cut by an acetylene torch prior to welding. Gas is furnished to this factory under high pressure, i. e. 3½ pounds to 5 pounds, and the service is therefore capable of passing from 5,000 to 10,000 cu. ft. per hour.

It is not the practice to install a service of this size when the gas is supplied under high pressure. In most cases a ¾" or 1" service is sufficient to supply the necessary wants, but owing to the length of the service and the resulting drop in pressure, it was necessary to install a larger pipe.

❖

The work of installing mains and services in Fairport is practically finished for the present year. There is still considerable work for the Gas Shop Department to install meters, house piping, stoves, etc. There was installed in Fairport this summer approximately 40,000' of 2", 2500' of 3", 4000' of 4", 5000' of 6" and 600 ¾" services, all of black steel pipe with welded joints.

ELIMINATE WASTE!
LOOK TO THE LITTLE THINGS!
IN EVERY POSSIBLE WAY
MAKE EVERYTHING COUNT.
INFINITE SAVING WILL FOLLOW.
NEVER WAS IT SO NECESSARY.
AND THE NECESSITY GROWS.
THIS IS THE DUTY OF ALL—THAT
EVERY MAN IN HIS LINE, SHALL

WASTE NOTHING.
ALLOW NOTHING TO BE WASTED.
SEEK TO CONSERVE.
THIS IS YOUR DUTY AND MINE—
ELIMINATE WASTE!

Electric Generation

The Electric Generating Department is designing the substation for the T. H. Symington Company plant located on University Avenue, which will be built for the purpose of manufacturing 3" field guns for the U. S. Government. The electrical installation will consist of one 1250 KW rotary converter for the DC load and six 150 KW oil cooled transformers for the AC load. Ample room will be provided for an additional rotary converter and transformer if the load increase necessitates this additional apparatus. The substation will be 51 feet by 30 feet with an 8" wall dividing the high tension bus room from the section containing the rotary. Windows will be omitted for the purpose of safe-guarding the apparatus, ventilation being supplied by louvres whose inside face will be protected by heavy wire netting. The energy will be supplied from Station 1 at 11,000 volts potential through cable laid underground.

❖

The construction work that has been under way at Station 35 will be completed about the middle of this month and the station will again assume a normal aspect. The 2,000 KW Railway Rotary Converter and Transformer set for this station has arrived and will be permanently placed within a few days. The 1,000 KW Edison Rotary Converter has also arrived in Rochester but will not be installed until a later date. Construction work on the 36 duct subway which connects the east and west manholes has been completed and the transfer of the cables located on the ceiling to this subway will be taken care of with other cable work which must necessarily be done in connection with the rotary converter installations.

❖

The Edison Rotary Converter which was bought last fall for installation at Station 34 has been sold with transformer and allied equipment to the Symington-Anderson Company. This apparatus will furnish direct current energy for motor operation in the gun shop. A duplicate of this equipment has been ordered for Station 34 to be delivered next spring.

❖

Mr. Wm. Enos of Station 3 is erecting a new 4" steam line from the D.P.W. Incinerator at the foot of Falls St., across Smith St. Bridge to the East Station of the Gas Works in order to carry the surplus steam which will be generated at the Incinerating Plant. This line was put into service Sunday, Aug. 26, 1917.

❖

Water has been turned into the new 120,000 gallon reaction tank at Station 3. This tank is the third one erected for the treatment of Genesee River water to be used for boiler feed water.

❖

Mr. Dimmick and Mr. H. Steeg are erecting two Foster Superheaters on the Bigelow-Hornsby boilers at Station 3. The Foster Superheaters are furnished by the Power Specialty Co., of Dansville, N. Y.

❖

The familiar face of Mr. E. Williams was again seen at Station 3 where he is superintending the erection of two 875 H.P. Bigelow-Hornsby Boilers for the Bigelow Boiler Co., of New Haven, Conn.

Auditing

Monthly Report on New Business

Net Increase in Consumers in First Seven Months of 1917

	Dec. 31, 1916	July 31, 1917	Increase
Gas	72,721	73,881	1,160
Electric	22,282	23,570	1,288
Steam	43	49	6
	95,046	97,500	2,454

Net Increase in Consumers in Twelve Months Ending July 31, 1917

	July 31, 1916	July 31, 1917	Increase
Gas	71,098	73,881	2,783
Electric	21,009	23,570	2,561
Steam	41	49	8
	92,148	97,500	5,352

Statement of Consumers by Departments for July 31st.

July 31	Gas	Elec.	Steam	Total	Increase
1908	38,941	5,485	....	44,426	.....
1909	42,345	6,029	....	48,374	3,948
1910	47,767	7,061	....	54,828	6,454
1911	53,041	8,413	16	61,470	6,642
1912	57,261	10,264	19	67,544	6,074
1913	62,492	13,014	22	75,506	7,962
1914	66,128	15,047	28	81,203	5,697
1915	68,118	18,265	36	86,419	5,216
1916	71,098	21,009	41	92,148	5,729
1917	73,881	23,570	49	97,500	5,352
Inc. in 9 Yrs.	34,940	18,085	49	53,074	53,074

Net Increase in Consumers by Months

	1915	1916	1917
Increase in January	364	252	124
Increase in February	144	219 (Dec.)	24
Increase in March	247	317	333
Increase in April	460	652	552
Increase in May	306	716	477
Increase in June	544	613	547
Increase in July.. (Dec.)	132	584	445
	1,933	3,353	2,454

Company's Savings Depositors

STATEMENT TO SEPT. 1, 1917

No. of depositors, Sept. 1, 1917	56
Decrease during Aug. 1917	4
Amount deposited during Aug. 1917	$416.30
Total deposits to Sept., 1917	$12,406.42

Miscellaneous Data

	July 31, 1916	July 31, 1917	Increase
Miles of Gas Main	437	444	7
Miles of Over-Head Line	1,792	1,853	61
Miles of Underground Cable	1,045	1,075	30
Miles of Subway Duct	931	959	28
No. of Street Arc Lamps	4,137	1,584	(Dec.) 2,553
No. of Street Incandescent Lamps	4,622	7,958	3,336
Total No. of St. Lamps	8,759	9,542	783
No. of Employees	1,210	1,286	76
Amt. of Payroll (Mo.)	$97,832.14	$120,647.03	$22,814.89

E. B. A. for Month of July, 1917

Receipts

Bal. on hand 1st of month		$4,294.14
Dues—Members	$505.04	
Dues—Company	505.04	
Fees—Members	12.00	
Fees—Company	12.00	
Assessment No. 8—Mem	160.50	
Assessment No. 8—Com	160.50	
Group Life Insurance	6.94	
Mem. Additional Life Ins.	272.20	$1,634.22
Total		$5,928.36

Disbursements

Sick Benefits	$362.18
Accidents off Duty Ben	23.10
Accidents on Duty Ben	92.28
Death Benefit No. 7	275.00
Group Life Insurance	2396.98
Medical Examiner's Exp	12.00
Mem. Additional Life Ins	414.44
Inv. R. R. and L. Co. Bonds	800.00
Total payments for month	4,375.98
Bal. on hand Sept. 1, 1917	$1,552.38

Membership

Membership ending July 31, 1917	775
Affiliated during August	15
Unaffiliated during August	15
Membership ending August 31, 1917	775

Personals

An index to Gas and Electric News, Volume 4, has been prepared and is distributed with this issue. This should be of great assistance in refering to previous articles.

Mr. Fred Gunther of East Station is on a motor trip to Detroit, Mich.

Mr. R. E. Kruger is spending his vacation at Oswego and Kendall.

Miss A. Baker, is now Supervisor of the Billing Group.

Miss Elsa Faulstich has returned from an auto trip to Cleveland where she spent a delightful time.

Have you joined the E. B. A.? If not, why do you risk not getting aid in the hour of need?

Mr. Frederick Raines, of the Balancing Department, is spending his vacation at Canandaigua Lake.

Mr. Roy Darron has been added to the clerical force of the Gas Street Department.

Mr. Walter Drew spent a delightful vacation this year "Fording" around New York State and Pennsylvania.

The Boys of the Gas Distribution Department, report the picnic as the "best ever."

Mr. and Mrs. F. A. Bond spent Labor Day in Auburn at the home of Mrs. Bond's parents.

Mr. Jas. Donlon, night clerk in Electric Distribution Office, has been transferred to the Motor Department.

Mr. J. J. Schenk spent his vacation enjoying the fishing and boating at Conesus Lake.

Mr. and Mrs. Edward L. Wilder announce the birth of a son, James Johnston, on Friday, August 31st.

Mr. Frank Hubbard, of the Gas Shop, is sojourning for two weeks at Sodus Point.

Miss Adelaide Rice, of the Billing Department, is spending her vacation at Brockton, Mass.

Mr. L. I. Hall, Chief Draftsman, spent his vacation roaming over the hills west of Canandaigua Lake.

Miss Margaret Coleman, of the Appliance Department, spent her vacation with friends in Detroit.

Mr. Geo. E. Davis, of the Engineering Corps at Station 3 is spending two weeks on Canandaigua Lake.

Mr. Frank Rossney, Stockkeeper at Station 3, recently spent two weeks vacation at Lake Placid.

Miss Helen Sprague, of the Electric Distribution Department, recovered from her recent illness and has returned to work smiling and happy.

Mr. Charles G. Binder, formerly of the Engineering Department, and connected with the State Architect's Office at Albany, was a recent caller.

Mr. Hart Rapp, formerly with the Buffalo, Rochester and Pittsburgh Railroad, has joined the fireroom staff at Station 35.

Mr. O. McHugh, is on the injured list, due to an abscess formed on his left wrist which was fractured about two years ago.

Mr. C. H. Wirley, clerk in the Underground Cable Department, has been transferred to the Electric Distribution Office as night clerk.

Miss Ada Geen, of the Gas Street Department, spent her very pleasant vacation at Graywood on Conesus Lake.

Mr. Walter Egan has resigned from the Gas Manufacturing Department, having been called in the first increment of the New National Army.

Mr. and Mrs. Frank Taylor are the happy parents of a daughter, Mary Jewett, born Saturday, August 18th.

Mr. William A. Schell of the Engineering Drafting Department is at present in the Officers' Training Camp at Fort Niagara, New York.

Mr. Withred Cook, Engineering Department, has returned from his vacation at Stony Lake, Ontario, Canada.

The new tennis court, at Station 1, is in good condition for playing. No doubt a great many will take advantage of this new court.

Mr. and Mrs. Wm. H. White have just returned from a vacation trip to Montreal and Quebec, via the St. Lawrence River.

Mr. Ross L. Milliman, Engineer of Construction Department, has been commissioned 2nd Lieutenant in Field Artillery, O. R. C., U. S. A.

Mr. Marshall Slee was substituting at Station 34 while Mr. Maurice O'Connell took his vacation somewhere in Rochester.

Mr. "Andy" Brostron, of the Meter Department left the employ of the Company to go to school at Kenilworth Hall, N. J.

Mr. Ray L. Davis is spending his vacation at Georgian Bay, Canada, on a fishing trip. We know that Ray is a good fisherman.

Mr. James Culligan, Meter Reading Department, spent his vacation touring the West in his new Cadillac eight.

Miss Lucille M. Poole, of the Engineering Department, spent several days in Washington, D. C. recently.

We know that Mrs. Gabriel Gays Houghs many friends in the Company will be pleased to know of her return to the Billing Department. It always seems good to meet old friends.

With much satisfaction you have watched your savings account grow. Confer a kindness upon your coworkers by interesting them in this Company's Savings Plan.

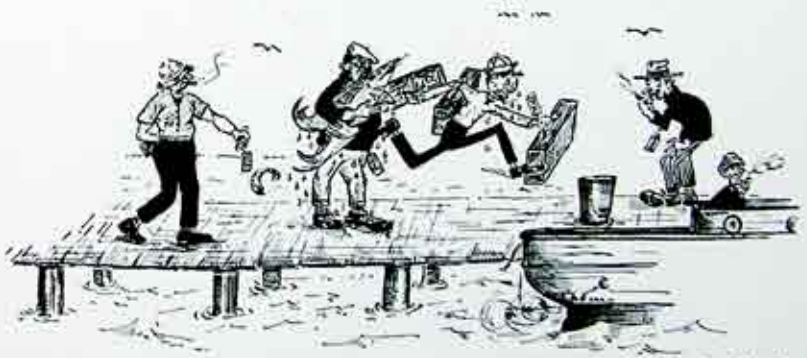
"Doc" Burne, of Pulmotor fame, has returned from his vacation which was spent at his new bungalow in the Adirondack Mountains. "Doc" reports a "splendid" time.

Mr. Wilmot E. Hall, formerly employed in the Engineering Department, is Yeoman, 3d Class in the U. S. Navy and is in the Paymaster's Office at New York.

Miss Anna E. Howe, of the Stenographic Department, has returned from a very invigorating vacation spent at Fourth Lake in the Adirondack Mountains.

Mr. and Mrs. Louis P. Church, of Detroit, have announced the engagement of their daughter, Margaret, to Mr. Harold M. Elwood of the Engineering Department.

Mr. F. H. McCormack, formerly connected with the Electrical Construction Department, has been commissioned 2nd Lieutenant, Engineer Officers Reserve Corps, U. S. A.



Messrs. E. C. Scobell, J. P. Haftenkamp and F. W. Fisher recently went to Georgian Bay, Canada, on a short fishing expedition. The above illustration shows them on their way home and graphically illustrates who did the work. Mr. E. C. Scobell of auditing fame had the hard job of acting as guide and paying all the bills. Cashier Ray Davis was also there to enjoy the fishing.

Mr. B. McGivern, night foreman in the Electric Distribution Department, is spending a two week's vacation at Manitou. No fish have been seen as yet.

The Company is now using large size type, for the Payable Date, on its Gas and Electric Bills. This new feature has proved itself to be a success from the start.

Mrs. A. C. Denio, of the Balancing Department, is on a motor trip taking in Alexander Bay, Lake George, Saratoga Springs and many other places of interest in New York State.

A window has been installed in the vault on the Main Floor and the ventilation has been materially improved. Those whose duties take them into the vault look much happier.

Mr. John H. Stokes, Relief Department, was in an automobile and milkwagon collision on East Avenue on August 25th. The repairs to Mr. Stokes embraced fifteen stitches. The wreck of the milk wagon has caused the price of milk to go up.

Mr. and Mrs. Harry Sugden spent their vacation in Detroit at the home of their daughter, formerly Miss Eunice Sugden of the Main Office. Incidentally they gave some attention to a new grandson who was then about a month old.

Mr. John Cox, sub-foreman, has returned from an enjoyable week's vacation spent at his cottage at East Manitou. Mr. Cox reports good progress on the transmission line to Eastman Pumping Station at Round Pond.

Mr. E. A. Roeser, of the Industrial Sales Department, had a very interesting vacation at Lake Placid in the Adirondacks. Automobiling, horseback riding, mountain climbing, swimming, and visits to many points of interest nearby, all combined to make a very successful two weeks' outing.

Mr. T. H. Evans, Sergeant 1st Class of the Second New York Ambulance Company, husband of Mrs. T. H. Evans of the Billing Department, left recently for the concentration camp at Spartanburg, South Carolina.

Mr. Howard Steitz, an East High School Student, who has been assistant at laboratory and clerical work at East Station this summer, has returned to school. His object in working this summer was to earn money to pay for his Liberty Bond.

Miss Elizabeth Connor has been employed as an operator on the Burroughs Billing Machine. Miss Connor having had considerable experience in medical welfare work in Cleveland, her talents along this line might prove to be of value to this Company.

Mr. Edward Garrison, of the American Engineering Co., of Philadelphia is superintending the erection of the new Taylor Stokers at Station 3. Mr. Garrison was formerly connected with the office at Station 3 and we are all very glad to learn of his success.

Mr. Alvin R. Mason, of the Record Drafting Department, and Miss Elmira Mosman of 91 Pembroke Street were married on August 29th at the bride's home. After an eastern trip to Saratoga Springs and New York City, Mr. and Mrs. Mason will be at home at 91 Pembroke Street.

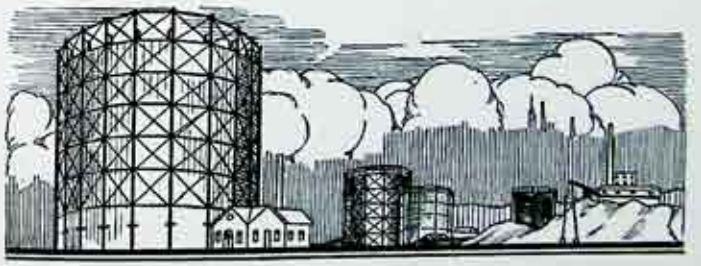
We received a package recently, and upon opening it discovered that it contained a number of "Coke and Iron Monthly" bulletins published by the By-Products Coke Corporation of Chicago. Upon further perusal we discovered that Mr. G. W. Goddard who was formerly with this Company is now staff artist on the Coke and Iron Monthly. Mr. Goddard is also assisting with the coke Company's Safety Work. "G. W. Goddard, '17" looked very familiar.

Your Flag and My Flag

"Your flag and my flag and how it waves to-day,
O'er your land and my land and half the world away;
Rose red and blood red its bars forever gleam,
Snow white and soul white, the good forefathers' dream;
Sky blue and true blue with stars that shine aright,
The glorified guidon through the day, the shelter
through the night.

Your flag and my flag and oh! how safe it holds
Your land and my land secure within its folds.
Your heart and my heart beat quicker at the sight,
Sun kissed and wind tossed, the blue, the red, the white.
The one flag, the great flag, the flag for me and you
Glorified all else beside, the red, the white, the blue."

—Major James A. Moss, U. S. A.



The Du Bois Press
of Rochester

The Test

The test of a man is the fight that he makes,
The grit that he daily shows;
The way he stands on his feet and takes
Fate's numerous bumps and blows,
A coward can smile when there's naught to fear,
When nothing his progress bars,
But it takes a man to stand up and cheer
While some other fellow stars.

It isn't the victory after all
But the fight that a brother makes,
The man, who, driven against the wall,
Still stands up erect and takes
The blows of Fate with his head held high
Bleeding, and bruised and pale,
Is the man who'll win in the by and by,
For he isn't afraid to fall.

It's the bumps you get and the jolts you get
And the shocks that your courage stands,
The hours of sorrow and vain regret,
The prize that escapes your hands
That test your mettle and prove your worth;
It isn't the blows you deal,
But the blows you take on the good old earth
That shows if your stuff is real.

—*Exchange*