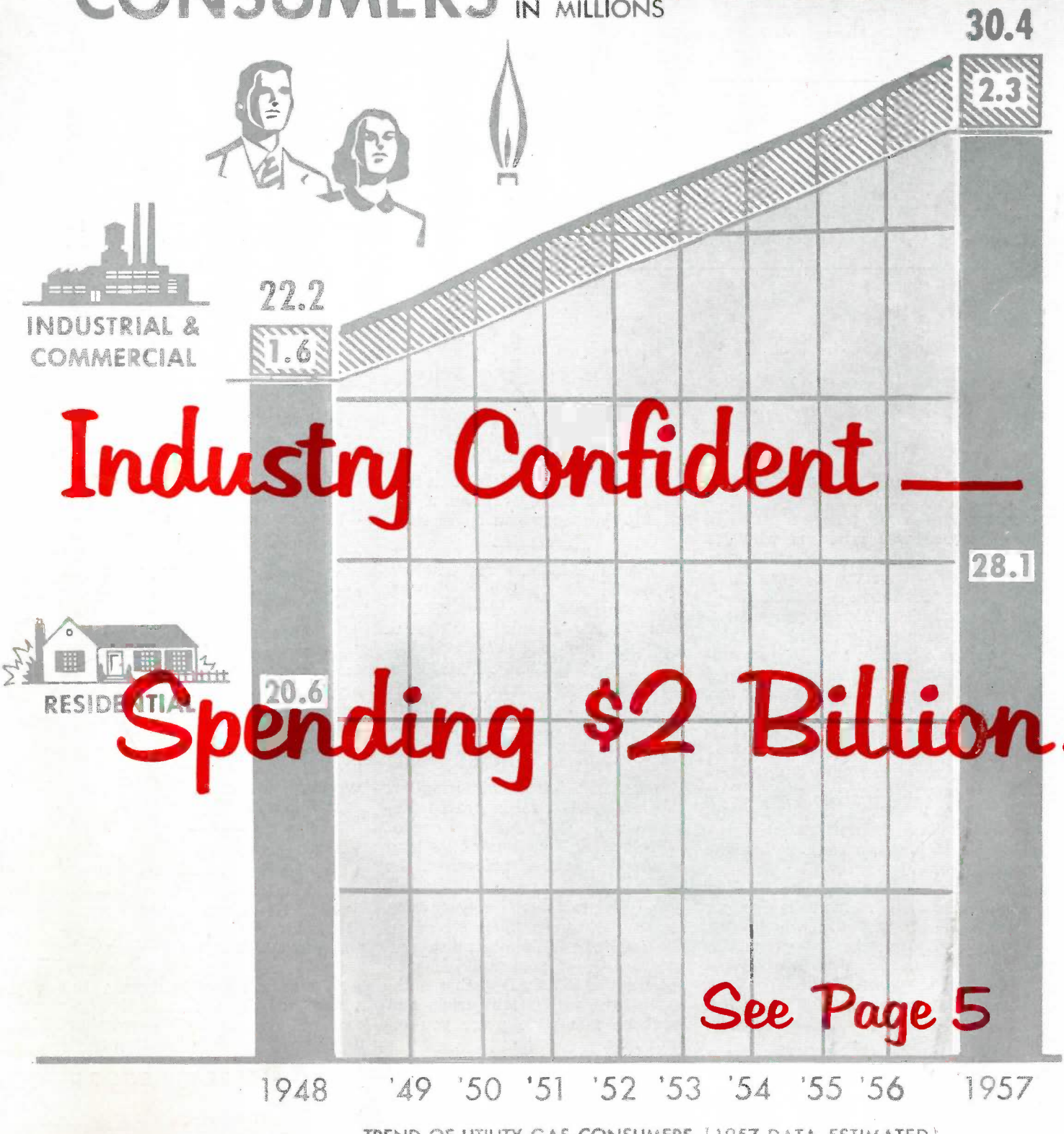
MUELLER
Record
MARCH • 1958

Industry Confident — Spending $2 Billion!

See Page 5



TREND OF UTILITY GAS CONSUMERS (1957 DATA ESTIMATED)

SOURCE: AMERICAN GAS ASSOCIATION

Mueller Record

March 1958

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SALES OFFICES
New York San Francisco

Recording Our Thoughts

Our visit to the Gas Light Company of Columbus, Georgia a few months ago was indeed a pleasure. Everyone was generous with his time, and more than willing to help us in every way possible.

Our special thanks go to Mr. Jack Averett, General Superintendent. Jack attended Georgia Tech, and was graduated in 1941. He worked for General Electric as a student engineer until January, 1942, when he entered the service and was attached to an anti-aircraft battalion. He was able to attend classes at both Harvard and Massachusetts Institute of Technology while in the Army. Jack was married while at Camp Stewart, Georgia, and has two sons, ages eight and twelve.

After his discharge in 1946 in California, Jack joined the Georgia Power Co., the firm which was then operating the gas properties in Columbus; his first job was Industrial Engineer. He became General Superintendent of the Gas Light Company of Columbus in August 1948.

Elsewhere in this issue is a brief account of the operations of this utility. We hope you enjoy it.

Several RECORD readers have written this question to us: "Why do we only receive the RECORD every other month? Isn't it a monthly publication?"

Yes, the MUELLER RECORD is a monthly publication. One month, it is devoted to members of the water works industry; the next month, it goes to members of the gas industry.

For your further information, the RECORD first appeared November 1, 1910, making it one of the oldest publications of its kind in the country — indeed, in the world.

We have had many requests from water works men to be placed on the gas industry mailing list, and vice-versa. If you would like to receive the RECORD each month, a postcard will do the trick, and we'll be happy to place you on both lists.

Our thanks to the many readers who complimented us on the Centennial and Christmas issues of the magazine. We always welcome letters from you, whether they be of praise or criticism. We have stated this in this column before, but it bears repeating: The RECORD is YOUR MAGAZINE. We want to make it a magazine to which you look forward each month. Please let us know your thinking on the kind of articles we use, and any other thoughts you may have. All letters will be promptly acknowledged.

In an attempt to give adequate coverage to both the American Water Works Association Convention and the Southern Gas Association Convention, which will be held in Dallas the third and fourth weeks in April, we will send you a combined April-May issue in mid-May, carrying stories on both meetings. We are looking forward to meeting many of our RECORD readers "deep in the heart of Texas."

A belated HAPPY BIRTHDAY to the Blue Flame Village in suburban Columbus, Ohio. The Ohio Fuel Gas Co. and other sponsors of this all-gas-homes development have been pleased with the results. There are now 34 homes completed, 14 more under construction; plans for more than 300 homes in all constitute the goal in this campaign for natural gas consumers. All homes in the village are sold fully-equipped with gas appliances including gas air conditioning and heating units, refrigerators, kitchen ranges and water heaters. Ohio Fuel Gas, a member of Columbia Gas System, co-operated on the project with local builders and suppliers. The first home was opened late in 1956.

A Texas "oilionaire" walked into a Cadillac showroom and inspected several on the floor with a dissatisfied air. A salesman raced over to him, whipped out an order book, and asked, "What can I do for you today?"

"My wife has come down with a touch of the flu," said the tycoon. "Have you anything suitable in the way of a get-well car?"

Our Cover this month vividly displays the fantastic growth of the natural gas industry in terms of millions of consumers. A detailed and well-written account of this growth, authored by Robert W. Otto, appears on Page 5.

Contents

Preview

The combined April-May issue of the MUELLER RECORD will reach you in May, and will contain interesting highlights, photographic and otherwise, of two BIG conventions . . . the annual American Water Works Association convention, and the Southern Gas Association convention. Both meetings will be held in Dallas. You will also read some interesting facts about Illinois Power Company, with home offices in Decatur, Illinois. See you in May!

Millions of Americans Express Faith In Gas

A.G.A. Takes Active Role In Industry Boom

By Robert W. Otto, President, American Gas Association Chairman of the Board, Laclede Gas Company, St. Louis, Missouri

The gas utility and pipeline industry, advancing to new heights on all fronts during 1957, is confidently building for the future because millions of Americans are depending upon gas for present and future needs.

The industry is expressing its confidence in specific terms with current construction expenditures of $2 billion a year, 97 percent of it earmarked for natural gas facilities. Expenditures will total $8.7 billion for a four - year period through 1960, compared with $5.3 billion spent in the previous four-year period (1953-56) and $4.7 billion in 1949-52.

Throughout the United States today the gas utility industry is providing service for 31 million customers in homes, business, industry, schools, churches, hospitals — in fact, everywhere comfort, convenience, economy and dependability are essential. These customers receive our "wonder fuel" from approximately 1,300 utility companies supplied by about 100 transmission companies. In addition, some 9 million consumers who live beyond the present reach of utility mains use "bottled gas."

Customers Increase in 1957

The average number of utility customers during 1957 was 30,385,-700 an increase of 2.9 percent over the 1956 average of 29,536,600 customers. The year-end total was 30.9 million customers.

Utility customers receiving natural gas averaged 27.0 million during the past year, a gain of 1.8 million customers and an increase of seven percent over the 25.2 million natural gas customers served during 1956.

Manufactured and mixed gas customers averaged 3.2 million during 1957, for a decline of 21.2 percent as former users of these fuels continued to convert to natural gas.

The total of gas utility customers is expected to increase steadily to an estimated 33½ million—31 million of whom will be residential customers—on the average during 1960, and then to an average of 38¼ million by 1965, including 35.5 million residential users.

With gas replacing oil as the leading heating fuel for U.S. homes, house - heating customers of gas utilities now aggregate 18 million, an increase of 8 percent over the previous year, and should approximate 20½ million by the end of 1959. Gas-heated homes represented about 36 percent of the nearly 50 million occupied homes and apartments as of mid-1957.

Sales and Revenues

Total sales by the gas utility industry in 1957 climbed to a record high of 74.36 billion therms. This represented a gain of 2.0 percent over the 72.9 billion therms sold in 1956.

Natural gas sales reached a new high of 72.02 billion therms, up 3.2 percent over the 69.8 billion therms sold a year earlier. Manufactured and mixed gas sales aggregated 2.28 billion therms, dropping 25.2

At left, Robert W. Otto, who was elected President of the American Gas Association last October in St. Louis, Missouri.

percent from last year to reflect the increasing conversion to natural gas.

Revenues from gas utility and pipeline sales to ultimate consumers advanced to an all-time high of $4,014 million, a gain of 4.2 percent over the previous record of $3,853 million a year earlier. Natural gas revenues increased 7.4 percent to $3,676 million, compared with the 1956 record of $3,422 million. Manufactured and mixed gas revenues were $322 million, a drop of 22 percent from $412 million in 1956.

Natural Gas Reserves

Proved recoverable reserves of natural gas reached an all-time high of 237.8 trillion cubic feet at the start of 1957. Even though net production climbed to a record of 10.9 trillion cubic feet in 1956, a net increase of 14.1 trillion cubic feet was attained through new discoveries and other reserve additions totaling 25 trillion cubic feet. During the past decade, additions to reserves have been twice as great as the amount of gas produced.

Ultimate recoverable reserves in the United States alone (not taking the potential sources of supply in Canada and Mexico into account) have been estimated by the U.S. Bureau of Mines at approximately 1,000 trillion cubic feet, while a recent study by the Chase Manhattan Bank estimates a minimum supply of 1,200 trillion.

Underground Storage and Pipelines

In order to permit greater year-round utilization of pipeline capacities and facilitate sales by distributing companies to consumers for heating use, our industry is rapidly increasing its underground storage facilities.

At the beginning of 1957, there were 188 underground storage pools and 7,432 wells in operation in 20 states, primarily in the Middle Atlantic and East North Central areas, with an ultimate capacity of 3.4 trillion cubic feet.

The amount of gas actually in storage reached a new high of 1.5 trillion cubic feet at the end of 1956, with a maximum daily output of 8 billion cubic feet. It was estimated that underground storage facilities represented 20 percent of the industry's total requirements for its biggest demand day of the year.

Total capital investment in underground storage fields in 1956 reached $443 million, up from $395 million a year earlier. The industry spent an additional $54 million for such facilities during the past year.

Approximately 21,000 miles of mains were added in 1957 to bring the total mileage to 545,700. The gas industry has extended its mains some 200,000 miles in the past 10 years, and within the next 10 years the pipeline network is expected to spread to more than three-quarters of a million miles.

Gas Appliances and Equipment

The gas industry doubled its research, development and promotion activities in the field of gas air conditioning in 1957. The A.G.A. research program set its sights on at least three experimental units for demonstration to interested manufacturers by the end of the year. Two units—the Swiss open cycle sorption system and the improved adsorption system, were demonstrated late in the year. The free piston engine-compressor unit will be shown early in 1958.

Our industry also displayed keen interest and strong support for Arkansas Louisiana Gas Company's acquisition of the air conditioning holdings of Servel, Inc. This utility company set a goal of 4,600 residential direct-fired absorption units in its first year of operation. Because of assurance given by other utility companies in recent weeks, this quota has been raised to 7,000 units.

Although gas ranges as a whole were somewhat under 1956 volume, built-in ranges made substantial gains and partially offset a drop in sales of free-standing ranges. Built-ins, gaining at the rate of about 40,000 units a year, now account for slightly more than 10 percent of the gas range market.

A.G.A. Laboratories

Approximately 5,000 gas appliances and accessories were received by A. G. A. Laboratories for approval tests in 1957. The majority of these were approved as complying with the industry's stringent standards of performance and were authorized to display the registered Approved Seal or Listing Symbol. Appliances with the Approval Seal —familiarly know as the Blue Star —continued to receive wide consumer acceptance because of their tested safety, durability and performance.

Most of the approved appliances and accessory designs incorporated advanced styling, improved performance and added convenience features. Over 50 percent of the units were designed for comfort heating, the designs stressing compactness and performance. Approval testing of smokeless, odorless type domestic gas incinerators was initiated late in the year.

Laboratories inspectors traveled some 150,000 miles in visiting more than 600 points of production in the United States and Canada. They made announced inspections for the purpose of renewal of certification and unannounced inspection of approved units to assure conformance of production in line with the model tested. Quality-control performance checks at point of production were also continued on a large scale.

Nineteen revised standards for appliances and accessories were adopted to become effective at the beginning of 1958. These included provisions upgrading gas equipment and provisions for approval testing of cooking appliances incorporating automatic top burner control. They also included a standard for gas incinerators.

Domestic, Industrial and Commercial Research activities continued at a high level with 18 projects under study.

Promotion, Advertising and Research

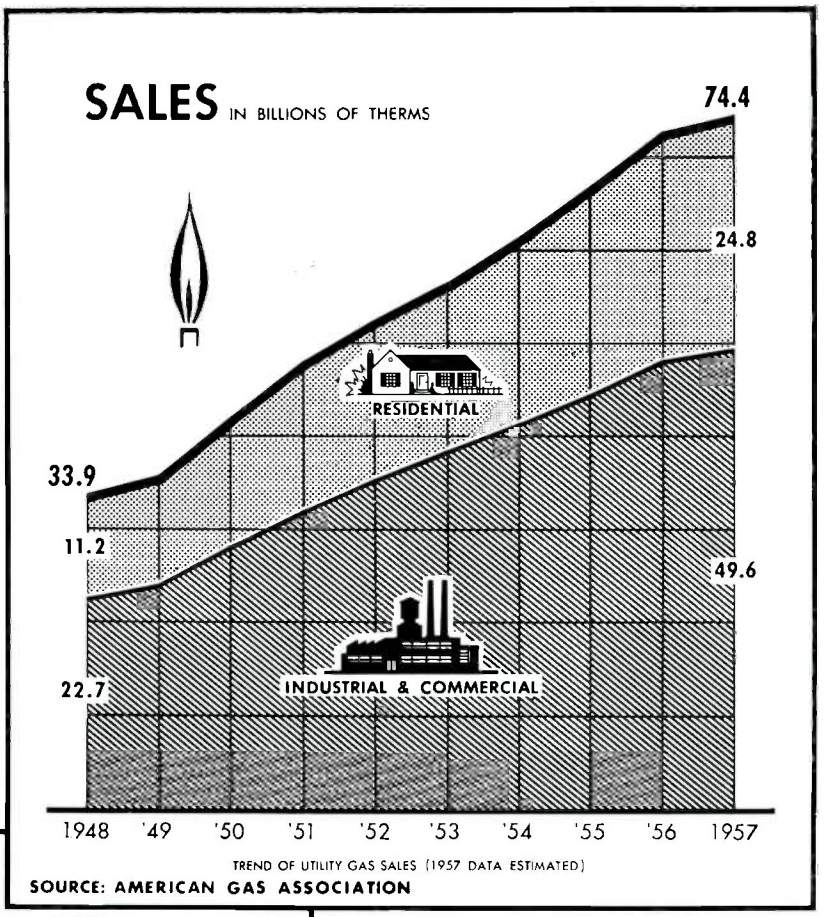
The American Gas Association's highly - successful Promotion, Advertising and Research (PAR) Plan completed its 13th year of coordinated activities embracing promotion, advertising, utility company research, pipeline research, and public information. Utility and pipeline companies subscribed more than $3¼ million to PAR, which has increased its 1958 budget by another half a million dollars to widen and accelerate its multiple activities.

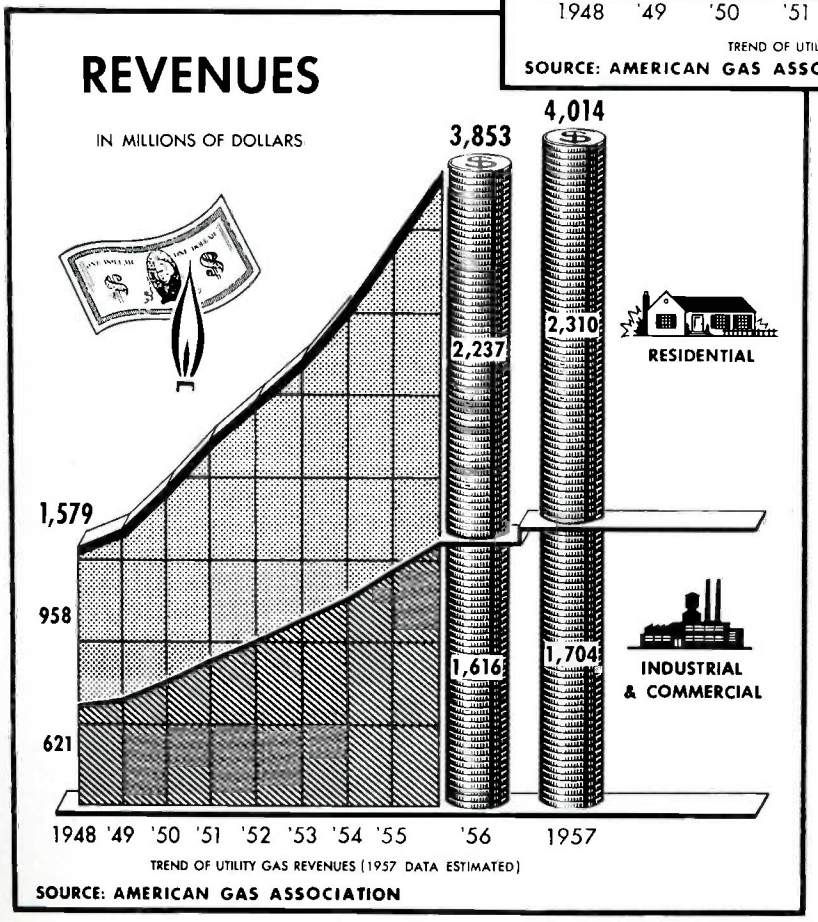
Among the many successful PAR operations was the industry's first use of national television as a sponsor of award-winning "Playhouse

90" on CBS. It is estimated that Miss Julia Meade's messages on modern gas appliances are reaching 11 to 14 million homes each week on "Playhouse 90," which consistently rates among the top ten national TV network programs. More than $2½ million was subscribed in 1957 by gas utilities, transmission companies and manufacturers to support the industry's television program. The television budget for 1958 has been increased to nearly $3 million, which is in addition to subscriptions to the PAR Plan.

The national advertising program of PAR in 1957 scheduled $1¼ million in ads appearing in magazines of general and specialized fields with total circulation of nearly 40,000,000 and estimated total sales messages of over 200,000,000. Many major manufacturers cooperated with the gas industry in space-sharing advertising.

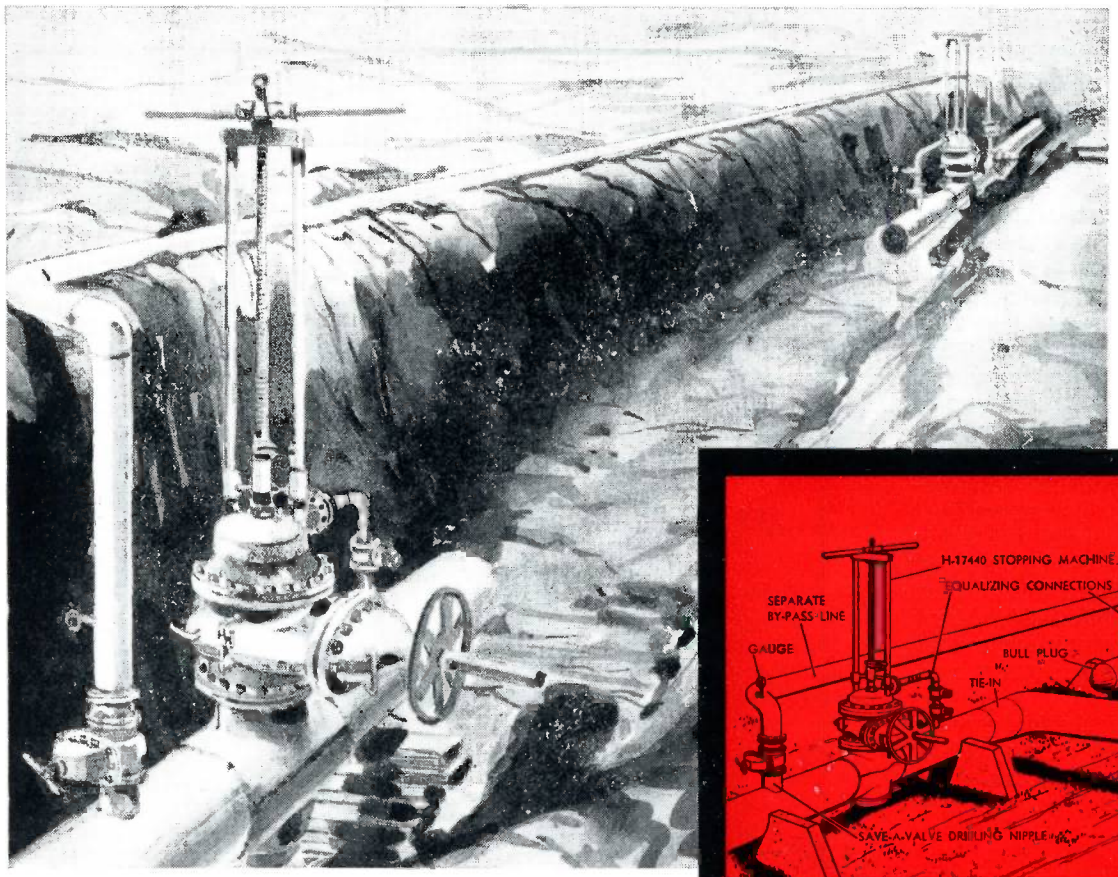
Major promotion achievements included a record-breaking "White Christmas" promotion featuring Bing Crosby, The Mrs. America





Contest (the 1957 winner was Mrs. Linwood Findley of Arlington, Va.) sponsored by A.G.A. for the fifth year, nationwide activities of the New Freedom Gas Kitchen and Laundry Bureau, extensive gas appliance tie-ins with motion pictures and television, merchandising aids, educational campaigns, and many similar projects to expand the appliance market and the gas industry in general.

PAR-financed research activities made notable advances in all fields, particularly in gas air conditioning and domestic incinerators. Gas operations research emphasized production of natural gas substitutes, with the synthesis gas-methanization process for production of pipeline gas from coal being successfully integrated in pilot plant operation. Pipeline research concentrated on improved pipeline design and operation. Twenty-two new research projects were initiated during 1957, 54 were continued from the previous year and 19 were concluded.



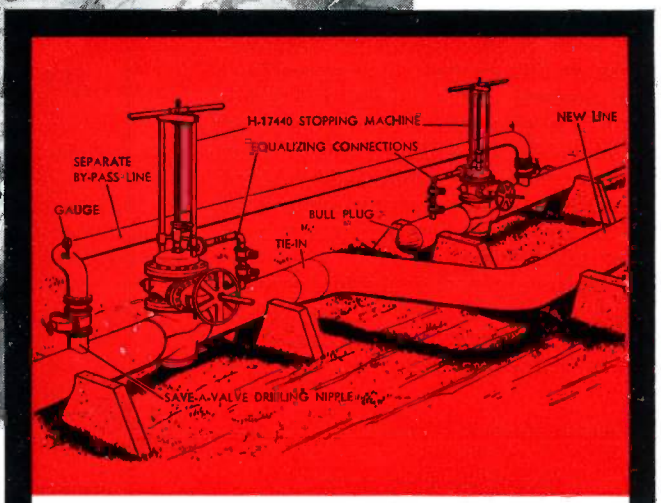
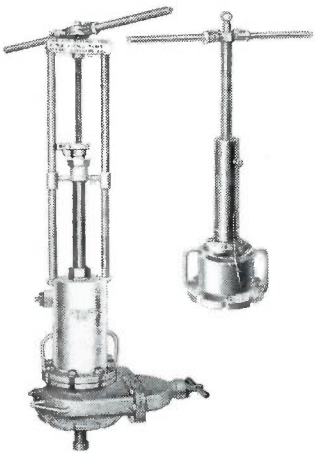


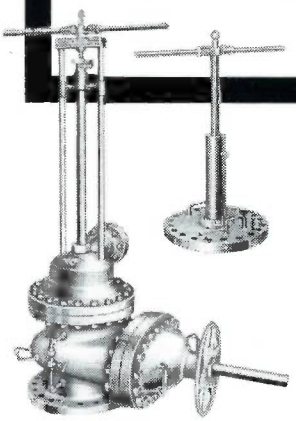
Diagram shows simple set-up used to tie-in larger pipeline to existing pipeline without interrupting service. Two Mueller® Stopping Machines completely isolate a short section of the line while the new line is tied-in. By-pass line carries flow around the isolated section. Operations are performed in complete safety.

Maintain flow while tying-in to 6", 8", 10" or 12" lines under pressures up to 230 p.s.i. at 100°F.



MUELLER NO-BLO PRODUCTS

No. 3 SW Line Stopper Unit, for 6" and 8" lines, with two H-17340 Stopping Machines, one H-17346 Completion Machine and one set of attachments. Maximum pressure: 230 p.s.i. at 100° F.; maximum temperature: 250° F. at 200 p.s.i.



No. 4 SW Line Stopper Unit, for 10" and 12" lines, with two H-17440 Stopping Machines, one H-17445 Completion Machine and one set of attachments. Maximum pressure: 500 p.s.i. at 100° F.; maximum temperature: 250° F. at 375 p.s.i.

Write for information on the complete line of Mueller NO-BLO® products for making tie-ins under pressure.

MUELLER CO. Since 1857 SERVING the Water and Gas Industries QUALITY

MUELLER CO.

DECATUR, ILL.

Factories at: Decatur, Chattanooga, Los Angeles; In Canada: Mueller, Limited, Sarnia, Ontario

Since 1857

MUELLER TOPICS

A. D. PARKS

Introducing Our New Assistant Field Sales Manager

The amiable young man pictured above is A. D. "Del" Parks, Assistant Field Sales Manager of Mueller Co. Del has held this position since July 1, 1957.

Educated in the Decatur, Ill., school system, he graduated from high school in 1935 and joined the company as plant messenger. Although unable to attend college full-time, he enrolled in business administration courses in night school at Millikin University in Decatur.

For the next six years, Del held a number of positions with the company, and he was called into the service in 1941. His first assignment after basic was in the 40th California National Guard Infantry Division. In late 1942, he was transferred to the Army Air Force, and was then assigned to administrative training at an air base in Mississippi. His last assignment before being discharged was in the Caribbean Defense Command (Panama), Sixth Air Force, 30th Fighter Squadron. Although he was busy with Flight Operations, he managed to continue his education in business administration and foreign language. His discharge came through late in 1945.

In the early part of 1946, Del rejoined Mueller Co., and was placed in the Manufacturing Division. Later that year, he was transferred to the Sales Division as a trainee. His first assignment as a sales representative was announced in January, 1947, and he was given North and South Carolina. He next traveled Maryland, Virginia and part of Pennsylvania. His diligence paid dividends in 1953, when he moved to Atlanta, Georgia as Southeast Sales Manager, a position he held until assuming his present position last July 1.

The year 1946 was an eventful one for Del. Not only was he able to rejoin Mueller Co., but he also lost his bachelor status by marrying in November in Blue Mound, Illinois. Darljean Parks had a great deal to recommend her as a wonderful wife. Always active in Red Cross affairs, she especially liked her period of volunteer work in a cerebral palsy school when she and Del were living in Atlanta. She was a social worker in Charlotte, North Carolina after their marriage. Although Darljean holds no college degree, she attended classes at the University of Illinois and Mary Washington College, Fredricksburg, Virginia.

Now she is the mother of two fine boys: Laird (Larry), age 8, and William (Billy), age 2. As all good mothers should, she finds time to spend with her children outside, as well as inside, the home. She is currently a Co-Den Mother with the Cub Scouts.

Del Parks is one of those rare men who likes to "putter around" in the yard without being asked to do so by his wife. In addition, fishing rates high on his list, and he plans to once again become a duffer this spring on the local golf links.

Any man who has been in sales as long as Del Parks cannot avoid developing his own special sales philosophy. Some of these men are hard-pressed to put it into words, but not Del.

"My prime consideration throughout my sales experience has been, and will continue to be, the establishment of relations equally beneficial to our customers and our company. The two focal points of my sales attitude are good customer service and quality products, and Mueller Co. has both."

Del has traveled a great deal since joining us in 1935. He has dealt with all phases of business activity, and all sizes of business. He has run the gamut of business personnel. He places a great deal of value on the friendships he has shared these past twenty-two years, and he looks forward with eager anticipation to the many new customers he will meet in his capacity as Assistant Field Sales Manager of Mueller Co.

STRICTLY

Off The Record

A woman marries the first time for love, the second time for money, the third time for companionship, and the rest of the time from habit.

"And here is the time of your birth," said an informative mother as she leafed through her young son's baby book, with the young man perched on her knee. "See? Eleven-forty p.m."

"Nope. Cant be," he remarked. "That's four hours past my bedtime!"

You can never hope to become a skilled conversationalist until you learn how to put your foot tactfully through the television set.

The difference between an optimist and a pessimist is that if you fall into a deep hole, an optimist will pull you out, but a pessimist will get in with you.

"Thieves," screamed the sales manager to his secretary after glancing through his sales force expense accounts. "Thieves—every last one of them!" Then, picking a name at random, he barked, "Get Miller up here."

In a few minutes the salesman stood before him. "O.K., Miller, let's have an explanation for your expenses: This one for 'food.' How the devil can you spend sixteen dollars a day for food in Peoria?"

"Oh," beamed the salesman modestly, "I just go without lunch!"

Why do we quibble so much about paying teachers a decent wage? It would cost us more to hire baby-sitters nine months a year than we pay in school taxes, and the education is thrown in free!

Nowadays when bread fails to rise, it's because there's something wrong with the toaster.

A spinster rushed into the house and confided excitedly to her old maid sister, "Oh, Eletha, I'm going out tonight with a used car salesman!"

"What's the difference," Eletha said reassuringly, "so long as he's healthy?"

A nylon stocking is woven from a single thread one and one-fourth miles long.

As the X-ray specialist walked down the aisle to say the marriage vows with a former patient, someone whispered: "I wonder what he saw in her?"

Middle age is when you step on a scale and the balance is no longer in your favor.

A boyish-looking minister, serving his first mission in the hill country, noticed that one of his faithful flock had been absent from services several Sundays in a row, so he decided to go see her and ask her why.

She shook her head and looked pityingly. "Son," she said, "you ain't old enough to have sinned enough to have repented enough to be able to preach about it."

Doctors know that hard work never really killed anybody, but they have known cases where it seemed to scare them half to death.

A strong-minded person is one who doesn't NO his own mind.

In Gary, Indiana, it's against the law to get on a street car within four hours after eating garlic.

Charm: what some people have until they start relying on it.

"For the last time, Tilson, keep your feet off my lap!"

Here are types of individuals familiar to us all:

The office "miracle man" — It's miraculous that he has not only endured with the company for many years, but climbed to high office without ever making a decision.

The young executive on his way up—He confides only to those within a quarter-mile that he has had lunch with the boss three times in the last four months.

The young executive on his way down—Same fellow four months later. Never mentions lunch with the boss any more.

"Here's a funny one—about a wife barging into her husband's office."

Did you hear about the Oriental who tried to collect a commission from the U. S. Health Department? He claims he should be reimbursed for starting Asian Flu.

You are an old-timer if you can remember back when a baby-sitter was called Mother.

He that brings sunshine into the lives of others cannot keep it from himself.

A scientist invented a serum to bring inanimate objects to life. Secretly he tried it out on a statue of a general in the park. Sure enough, the general gave a quiver and climbed down from the pedestal. The scientist was overjoyed. "Tell me, General," he said, What's the first thing you're going to do in your new life?"

"That's easy," rasped the general as he drew a gun. "I'm going to shoot several thousand of these damned pigeons!"

The fellow was sitting in the bar. He was already well on the way, so he was in excellent humor. Suddenly he asked for a piece of paper and began to figure something. Finally he said: "Hey, listen. My wife is on a diet. Just this noon she told me she had lost twelve pounds in four weeks. She weighs 168 pounds. Twelve pounds less per month. Hey, I'll be rid of her in 14 months.

"Your little boy is really very bright," the note on the report card read, "but he spends entirely too much time running around with the girls. However, I am working on a plan to break him of the habit."

So Mama signed the card and sent it back with this reply: "Let me know if it works, and I'll try it on his father."

"How did you puncture your tire?" asked the mechanic.

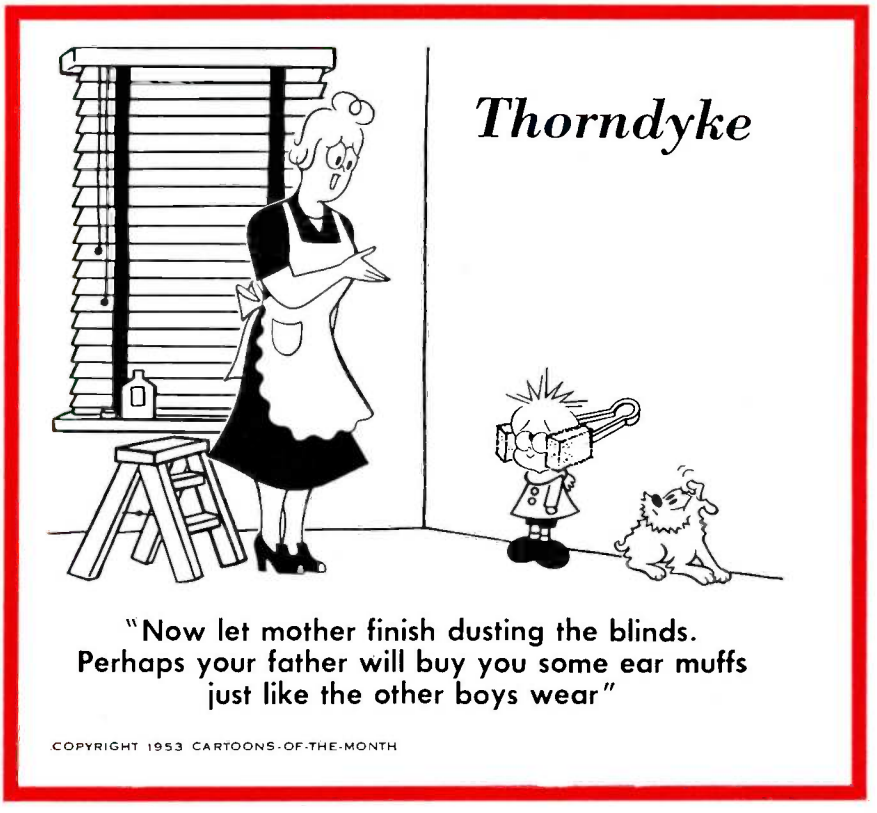
"I ran over a milk bottle," explained the motorist.

"Couldn't you see it?" the mechanic inquired.

"Naw," said the motorist. "The guy had it under his coat!"

"I remember seeing this same situation in a cartoon once—and how you laughed!"

Frantic wife called the family doctor: "Come quick, doctor—when he got up this morning he took a pill for his ulcer, an aspirin, a cold tablet, an iron pill, a vitamin pill, Milltown, dexamyl, equanil — and then he lit a cigarette and there was this terrible explosion!"



One of the original gas lights is still prominently displayed outside the downtown offices of the Gas Light Company of Columbus.

Columbus, Georgia

Gas Light Company Is 103 Years Old

In 1854, pursuant to a charter granted by the General Assembly of the State of Georgia, the Gas Light Company of Columbus was organized. In 1865 every written record of the distribution system was destroyed by fire.

The company continued to own and operate the gas properties in Columbus until 1922, although seriously hampered, at first, by the lack of information concerning the distribution system. In 1922, the properties of the Gas Light Company of Columbus and those of the Columbus Power Company were merged with the Columbus Railroad Company, and the name was changed to Columbus Electric and Power Company.

In 1930, Georgia Power Company acquired Columbus Electric and Power Company, including all gas properties in Columbus and Phenix City. Gas service had been extended to the latter city in 1926. Several more transitional phases of ownership and operation were necessary before all gas properties were finally controlled by the present company. These properties in Columbus and Phenix City began operations again under the name of Gas Light Company of Columbus on February 28, 1931. In November, 1935, the Gas Light Company sold the Phenix City properties to Alabama Power Company and resold to the Georgia Power Company the gas property in Columbus.

The properties in Columbus continued to be operated as a department of Georgia Power Company until August 14, 1948, on which date the present owners assumed control. Since 1948, Gas Light Company of Columbus has been operating as an independent gas utility serving natural gas customers in Columbus, Fort Benning and Muscogee County. The charter of 1854 is still active.

Gas was first manufactured and distributed in Columbus only thirty-six years after the first gas company was formed in the United States. The first gas produced was made from the distillation of wood in iron retorts. Later, clay retorts were substituted and coal was carbonized in place of wood. In the beginning, the gas was used merely for lighting, but the company was

ready when service for gas appliances was possible.

In 1918, the gas load in Columbus had grown to the extent that the coal gas plant then in operation was unable to meet the demands. A carburretted water gas set was then added. This set was completed in the fall of 1919, about the time of the tragic Pershing flood. The coal gas equipment was totally ruined by the high waters, but the new equipment allowed the restoration of gas service in only two days. Demand had so increased by 1924 that a second carburretted water gas set was added to increase manufacturing capacity.

Two high-pressure holders, together with a modern gas compressor, were installed in 1928. These sixty-pound pressure holders stored gas during off-peak hours for use during periods of peak demand. Also, in 1928, a third carburretted water gas set was added to insure a continuous supply.

The pressure in the first gas mains in Columbus was approximately one-eighth of a pound per square inch. This pressure was gradually increased over the years until it reached approximately one-fourth of a pound per square inch. This is the pressure at which the present residential and commercial gas is used. In 1914, it was found that the low pressure would not furnish adequate service to outlying districts. "High Pressure" distribution was created by the installation of a gas compressor and extending the high pressure mains away from the gas plant on Bay Avenue into the residential areas. This high-pressure system then fed into the low pressure system by means of regulators. Over the years, the high pressure system was extended, and through the use of regulators, customers were directly connected. This system operated at varying pressures up to fifty pounds.

This is the main entrance of the new Gas Service Center. Completed early this year, the $100,000 building houses the meter shop, dispatching office, maintenance equipment, and several offices.

In 1946, it was again necessary to increase the capacity of the system. This was done by extending two high pressure belt lines from the Bay Avenue plant—one north and one south. These belt lines were designated for high pressure, and were operable at between fifty and one hundred pounds of pressure. The old high pressure system was then designated as the intermediate pressure system.

Records show that in 1922 there were 2,700 customers with an annual output of 100 million cubic feet of gas. By 1928, there were 4,000 customers, and the output reached 164 million cubic feet. All of the gas manufactured for Columbus was processed in the Bay Avenue plant. The company still retains this property.

Natural gas first came to Columbus in April, 1931. A supply line was constructed from Alabama to a delivery point on the Bay Avenue property. On August 14, 1948, citizens of Columbus and Muscogee County purchased the natural gas facilities in Columbus and began operating as an independent utility.

The first five years of independent

Jack Averett is the genial General Superintendent of the Gas Light Company of Columbus. Jack has an excellent background in industrial engineering, and has done an outstanding job in his present position. A brief biographical sketch appears on Page 2 of this issue.

This attractive model kitchen is a permanent display in the downtown offices of the Gas Light Company of Columbus. The home service director is on duty throughout the day to aid customers in determining what type of kitchen and laundry equipment is best suited to their needs, and she provides answers to questions concerning the advantages of gas appliances.

operation saw a big program of expansion completed. In August, 1948, 13,885 customers were being served. In August, 1953, this number had been increased to 24,317. To accomplish such growth, many improvements including lengthy main extensions, were required.

A second supply line was installed in 1949. The old manufactured-gas plant was removed, and a new propane-air plant was installed in December, 1950. In 1951, the liquid propane storage capacity was doubled, making a total of 200,000 gallons. A new transmission line was constructed all the way from the gas fields through the Columbus area in 1951. The line runs northeast of the city. The company negotiated a second delivery point, and tied the new point into the Columbus system, giving the city two separate and independent sources of gas direct from the fields. After connecting the second delivery point, the company installed a sixteen-inch high pressure belt line east of the city to serve several areas which had been without natural gas.

Since 1953, total in-service meters have increased from 24,317 to 33,171 for the year ending August 31, 1957. In 1949, the first full year of independent operation, there were 175.11 miles of mains. Near the end of 1957, there were 377.43 miles of mains. Total sales in thousands of cubic feet nearly doubled from 1948 to 1957 . . . . from 3,269,807 to 6,455,990.

The new Gas Service Center of the Gas Light Company of Columbus was completed early in 1958. This was built at a cost of approximately $100,000, and included modifications of the existing building.

The new Whitesville Road Production Plant was completed in December, 1957, at a cost of nearly $400,000 to supplement peak-period demands on the system. Present capacity is 400,000 cubic feet per hour, but this figure may be increased later to 600,000 cubic feet per hour.

The growth of Columbus has been phenomenal. The last population estimate for the Metropolitan area stood at 140,000; in 1959, the city limits will be extended, bringing the population of the city itself to nearly 120,000.

In Summary

The 103-year-old Gas Light Com-

GAS FACTS

Gas utility companies throughout the country are learning that sound public relations programs are good investments. One such utility is the Elizabethtown Consolidated Gas Company of Elizabeth, New Jersey.

This gas company, which serves more than 140,000 customers in northern New Jersey, decided to introduce an emblem — the first in its 102-year history.

To stimulate public interest, a series of teaser ads were run in newspapers over a three-week period. In addition, teaser ads were run on billboards throughout the service area. All of these ads prominently displayed the emblem —the Gas Genie, an Aladdin-like cartoon figure created by Mr. Gene Hazelton. Ads stressed the "magic of gas," and Gas Genie was used to advantage.

Charles K. Oxford, Vice-President of the Gas Light Company, relaxes in the modern lounge of the downtown offices. Mr. Frank D. Foley is President of the company; Executive Vice-President is G. J. Tankersley; S. C. Bishop is Treasurer. The company's Secretary is Mildred N. Pearson, and C. E. Gates is Assistant Secretary and Assistant Treasurer.

pany has had its share of problems. It has experienced periods of multiple ownership and operation, floods, and drastic population shifts. It was called upon to meet the demands for natural gas in Ft. Benning, a large Army installation. One of the biggest problems has been meter connections and disconnections. Recent estimates state that about 10 percent of the total in-service meters are connected or disconnected each month . . . . nearly 3,000 meter orders to handle.

The new Gas Service Center, with its excellent Dispatching Office, will aid greatly in the efficient handling of excessive meter orders.

Company officials expect to add at least 1700 new customers this year, and budgeted construction expenditures for 1958 total 745,000 dollars.

It will be another big year for the Gas Light Company of Columbus, Georgia, but the experience of the past will continue to manifest itself to assure a successful future.

There followed a series of carefully-planned promotions leading up to the unveiling of the new emblem to the public and the press. The entire program was deemed a huge success. The company's objective is to make the distinctive symbol generally recognized throughout its service territory as the "Symbol of Good Gas Service."

FLORIDA BOOM

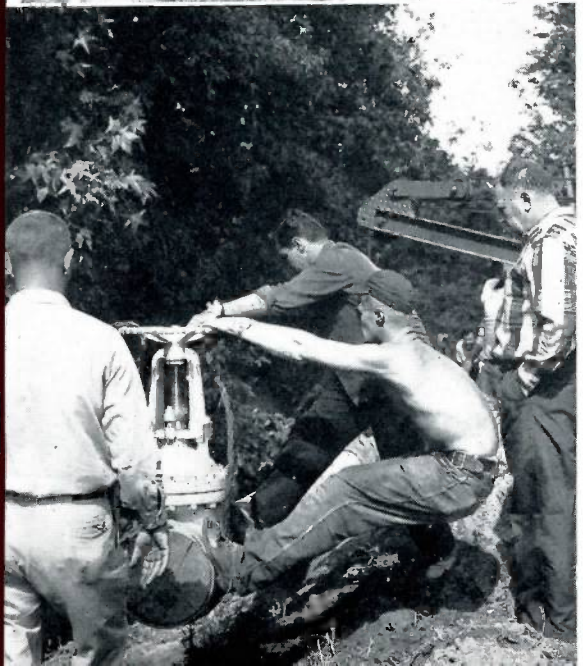
According to The Gas Industry NEWS LETTER, a total of $226,676,000 will be spent in 1958 to provide natural gas service in Florida. Of this amount, $159.1 million will be spent by two pipeline companies to construct the 1,417 mile line from the Rio Grande Valley to a point near Miami, Florida. Another $55.6 million will be spent by the eighteen existing distribution systems for expansion, and $4 million more to convert the systems to natural gas. Eight million dollars has been budgeted to build several completely new gas systems. The pipeline is expected to be completed and in operation by the fall of 1958. Future issues of GAS MAGAZINE will keep track of the developments as Florida readies itself for natural gas.

AUTOMATION PLUS

Automation seem to be the key to better gas system control at lower costs, so there will be steadily increasing use of it by gas companies this year. Dependable components are available, and the task for 1958 is the integration of individual parts to automated systems. According to The Gas Industry NEWS LETTER, areas which will gain rapidly in automation are natural gas production operations, pipelines, compressor stations and distribution operations.

CANADIAN NEWS

Despite delays caused by weather, Canada's Union Gas Company's 26-inch, $29 million Sarnia-Oakville pipeline is in operation. Toward the end of construction, the pipeline was going into the ground at the rate of 12,000 feet a day.



New Jersey

New Jersey Natural Dedicates New Line

A major construction project—the installation of a 26-mile long, eight-inch transmission main—was completed in November, and the line was immediately put into operation in time to handle the heating-season load.

The new line, running from Browntown in Madison Township, Middlesex County, to Laurelton, Brick Township, Ocean County, was completed at a cost of about $750,000 and has a potential capacity of distributing twelve million cubic feet of gas per day.

In addition to providing improved service for the western part of Monmouth County, the new line supplements the existing distribution system, and has greatly improved the distribution of natural gas to the southern part of Ocean County.

In an informal talk to officials gathered at the dedication of the new line, Dale B. Otto, president of New Jersey Natural Gas Co., said that construction on the line was originally planned for 1960, but residential and industrial development in Monmouth and Ocean Counties had been so great that the company had to build the line sooner to satisfy growing demands for service.

As evidence of the company's growth, Mr. Otto pointed out that the number of heat customers has increased 187 per cent in five years, and the peak-day load has gone up 170 per cent during that same period.

Another point made by Mr. Otto was that $10,578,814 has been spent on new construction during the past five years, resulting in greater gross receipts and franchise payments to the municipalities served by New Jersey Natural.

Although the new line has an ultimate capacity of 12 million cubic feet per day, the demand at present is only about 2,300,000 cubic feet, or about twenty per cent of capacity. Mr. Otto said, however that the company felt justified in making the major expenditure because of the great development potential in Monmouth and Ocean Counties. It is part of a utility's obligation to make such expenditures to assure adequate service.

The pipeline, which runs along Route 9, taps off the company's major ten-inch transmission line, which draws its supply from the Big Inch pipeline from fields in the Southwest and Mexico. A regulator station has been installed at the tap-off point in Browntown, and is remotely controlled from the company's central dispatching center in Long Branch to regulate the flow of gas according to requirements.

The line consists of welded 40-foot sections of eight-inch steel pipe coated with modified enamel and wrapped with felt to protect against corrosion.

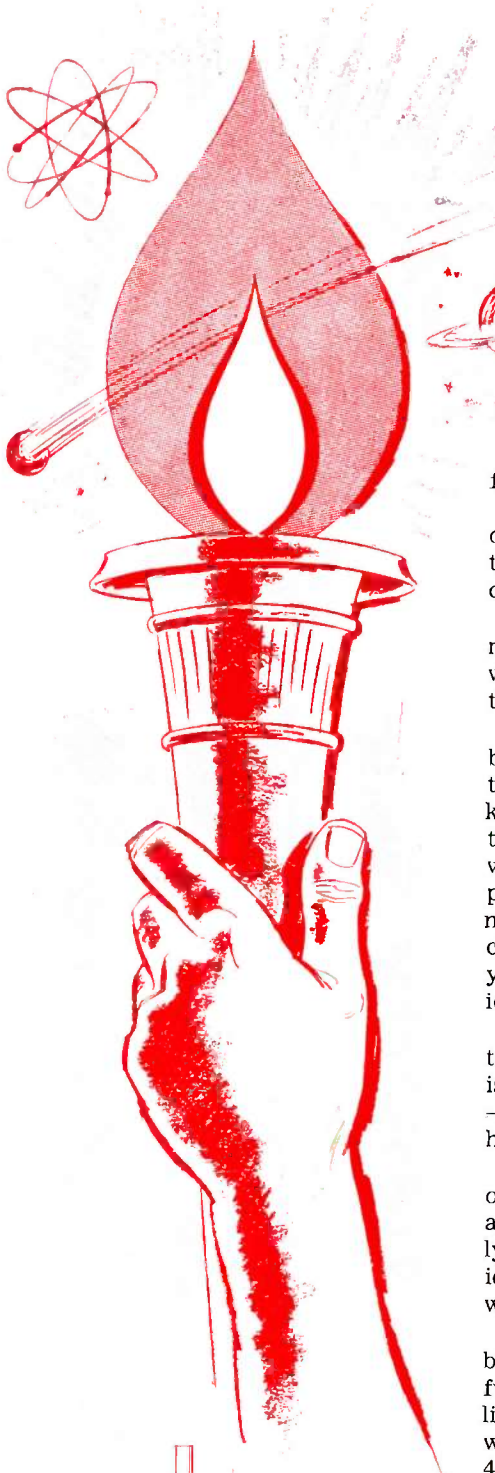
Installation of the line was handled under contract by the J. F. Kiely Construction Company, Long Branch, which employed more than 50 men and twelve pieces of specialized heavy equipment. (Courtesy THE NATURAL GASSER, published by New Jersey Natural Gas Co.)

TOP LEFT: Ditching machine readies a trench as section of pipe is readied for welding. CENTER: 30-foot section of pipe with valve at end is swung into position by the home-made rig called "the cherry picker." BOTTOM LEFT: Crew lines up pipe with valve in preparation for welding and lowering into ditch.

TOP RIGHT: Two sections of pipe are clamped as welder stands ready for final testing process. CENTER: Kenneth R. Lydecker, (left) operating assistant, and Robert Hurley, job inspector, are "jeeping" or testing line. BOTTOM RIGHT: The line has been tested and approved, and is lowered into the ditch by the crew.

Shipments by manufacturers of automatic gas water heaters in 1957 topped the two-and-one-half million mark and reached the third highest total on record, the Gas Appliance Manufacturers Association has announced. Boosted by sharp gains in December, the year's total came to 2,544,500. Record high stands at 2,762,100 in 1956.

Although natural gas is a relative newcomer to Canada, sales continue to rise steadily. A year-end report of the Canadian Bureau of Statistics indicated a healthy increase in sales during the first half of 1957 — from 82,471 million cubic feet to 95,670 million cubic feet.



The Alchemy of GAS

The alchemists sought to transform base metals into gold.

To modern scientists, this is but one of the many minor miracles that can be performed through chemistry.

Far more important—a major miracle—is the unprecedented wealth nowadays created through the use of **energy**.

But the alchemists may not have been too far wrong in searching for their "philosopher's stone" in some kind of chemical reaction. For more than one-quarter of this nation's wealth-producing energy is supplied by an abundant resource—natural gas. And its work is done chiefly through one of the simplest yet most fundamental of all chemical reactions—combustion.

To present-day knowledge, the transformation of gas into energy is easily explained. Yet natural gas—taken for granted by many—still has almost miraculous qualities.

First, natural gas is invisible and odorless. You can't see it until it appears as a blue flame. You usually can't smell it until special ingredients are added to give it an odor which can be detected.

In spite of its perfect combustibility, gas is one of the safest of all fuels. For gas will ignite only under limited conditions. It must be mixed with air in proportions of between 4½ and 14½ per cent gas to air. A "leaner" or "richer" mixture than this will not ignite.

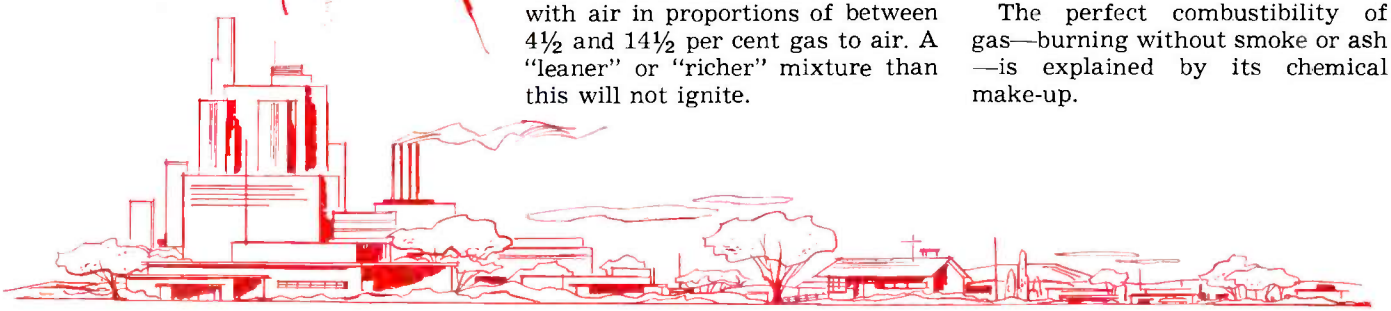
Even given the required mixture, a hot enough source of ignition must be present. A spark or flame of at least 1100 to 1200 degrees Fahrenheit is needed. Lighted cigarettes, probably the most common source of fires, will not ignite gas.

Natural gas is harmless to inhale, since it is non-toxic. Danger occurs only when the concentration is so high as to replace the oxygen necessary for breathing.

Gas is the perfect fuel not only because it is 100 percent combustible, but because it exists already in the form for burning. Other fuels, including oil and coal, must be **turned into gas** by the action of heat before a flame can be created. Therefore, gas is the most efficient and readily available of all fuels.

Combustion, of course, can occur without a hot flame being present. Combustion is simply another word for **oxidation,** or the combining of chemical elements with oxygen, a process in which heat energy is released as molecules are broken up. The rusting of iron is one example of slow combustion. Another is the "burning" of tissues in our own bodies. A hot flame occurs when heat is developed more rapidly than it is carried away, as in the case of burning gas.

The perfect combustibility of gas—burning without smoke or ash—is explained by its chemical make-up.



Pure natural gas belongs to the hydrocarbon family. That is, it is a substance in whose molecules are united atoms of carbon and hydrogen, two of the most abundant elements on the earth. Hydrocarbons take several forms—some gaseous, some normally liquid or even solid—depending on the number of atoms of the two elements united in each molecule.

Natural gas is composed largely of **methane,** the lightest of the hydrocarbons. In methane, one atom of carbon is bound up with four atoms of hydrogen. Thus, in chemist's shorthand, it is "CH_4." In lesser proportions, natural gas usually contains also the higher gaseous hydrocarbons, such as ethane (C_2H_6), propane (C_3H_8), and butane (C_4H_{10}). Varying amounts of inert gases such as nitrogen, helium and carbon dioxide may also be present. Heavier hydrocarbons usually are liquid in form, and may exist as gasoline, oil or other fuel products.

Perfect combustion of natural gas is possible because at certain temperatures both carbon and hydrogen atoms will combine readily with oxygen atoms to form new substances. Carbon atoms with oxygen produce carbon dioxide (CO_2). As the hydrocarbon molecules break up and combine with oxygen from the air, heat is released. The amount of heat can be measured in British Thermal Units, or B.T.U.'s.

This heat is then available as energy to melt steel, cook food, run engines or turbines, or do any other of the thousands of tasks which gas performs in the modern world.

It is truly a miracle that such a perfect fuel should be available in great quantities, stored beneath the surface of the earth in many areas, and especially in the United States, Canada and Mexico.

Though we know that there are hundreds of trillions of cubic feet of natural gas in the earth—enough to supply our needs for many years to come—just how much natural gas exists is as yet unknown. Drillers and exploration crews continually discover and tap new sources, assuring us that still more large reservoirs remain to be discovered in the future. Too little is at present known about the earth's substructures—the "land below the land"—to permit more than a guess as to total actual reserves. For this reason, gas industry geologists generally refer only to **proved** reserves—the quantities of gas which already have been definitely located.

How natural gas and the petroleum hydrocarbons came into existence, in the underground pockets of porous rock and other formations where drillers find them today, also is somewhat mysterious. Most scientists, however, believe that they were produced by the decomposing bodies of untold multitudes of plants and tiny animals, buried in sea-mud and later sealed in by rock forming over this sedimentary layer. The oil and gas are believed to have collected in their present pools by gradually seeping through the earth.

Thus, natural gas, miraculous in its powers and mysterious in its origins, may be regarded as a gift of nature, but hardly taken for granted. It is in truth a magical substance working an alchemy to enrich the lives of all of us. (Source: A.G.A.)

Atlanta Gas Light Company Shows Large 1956-57 Gain

Continuing to aid in the growth of the twenty-nine counties it serves, the **Atlanta Gas Light Company** closed its fiscal year September 30 with an increase of 16,851 customers over the previous year.

Plant investments increased almost eight and one-half million dollars—to $76,616,533. Construction during the year totaled $9,252,507, which included extension of service to the new customers, building of distribution systems in eight new communities, and increase of propane facilities in Atlanta, Macon, Augusta and Rome.

Due to the mildest heating season since 1931-32, operating revenues were down 1.5 percent. Total gas sales rose slightly, however, due to increased industrial usage. Major industrial customers added during the year included the American Cynamide Company in Valdosta, Georgia Railroad in Augusta, and Owen-Illinois in Atlanta.

Total customers served on September 30—322,131.

TELEMETERING

Portland (Ore) **Gas & Coke Company** finds that continuous audio-tone telemetering equipment is saving two thousand dollars a year. With the equipment, the utility is now handling thirteen separate readings over two leased wire lines. Continuous readings are provided. The tones originate from VHF transmitters at the data-taking points, and the data are recorded at the dispatch center in Portland.

NEW 30-INCH LINE

The FPC has granted **Texas Eastern Transmission Corporation** of Shreveport, La., temporary authority to construct 59 miles of 30-inch natural gas pipeline loops at an estimated cost of approximately $5,890,000. Temporary authorization, as granted by the FPC, does not permit operation of the facilities until such time as full permission is granted. Should FPC approval be denied at some time in the future, the cost of construction must be borne by the corporate stockholders.

APPLIANCE GAIN

The sale of gas-fired appliances in 1958 is expected to be 26.6 percent greater than in 1956, according to **Dennis K. Yorath,** president of two major Canadian gas distribution companies. His prediction of 325,500 gas appliances for 1958 compares with 257,169 such appliances sold in Canada in 1956.

STOP-OFF COPPER STEEL OR CAST IRON LINES

with MUELLER® *line stopper fittings*

Solder Braze
Sizes 1" and 1½"
Working pressures to 125 p.s.i.
For type "K" copper pipe

Welding
Sizes ¾" through 12"
Working pressures to 1200 p.s.i. on ¾" through 8" sizes
Working pressures to 800 p.s.i. on 10" and 12" sizes
For steel pipe

Mechanical Joint
Sizes 1" through 12"
Working pressures to 175 p.s.i.
For cast iron or steel pipe

Your Mueller Representative can furnish complete information on these fittings and the equipment with which they are installed. Contact him or write direct.

Isolate sections, relocate, repair or tie in copper, steel or cast iron lines under pressure. Mueller Line Stopper Fittings permit you to complete the entire operation under pressure in a safe NO-BLO® manner, without escape of gas.

All fittings are equipped with an internal threaded plug which closes the fitting and allows removal of all stopping equipment after the stop-off is completed. Fittings may be re-opened and re-used at any time, or if line is later abandoned, may be salvaged for use elsewhere.

An equalizing valve in the completion plug on sizes 3" and up equalizes pressure on both sides of the plug to permit easy insertion or removal under pressure. An "O" ring seal on the plug makes it completely leakproof.

MUELLER NO-BLO®

MUELLER CO. since 1857 SERVING the Water and Gas Industries QUALITY

MUELLER CO.
DECATUR, ILL.

Factories at: Decatur, Chattanooga, Los Angeles;
In Canada: Mueller Limited, Sarnia, Ontario

Since 1857

Charleston, West Va.

DUDDING

RETIRES

After Forty-Seven Years of Service

A career that has spanned almost the entire period of United Fuel Gas Company history in Charleston, West Virginia — a career that has gone from laborer to assistant vice-president, was ended February 1. On that day, Byron T. Dudding retired after 47 years of service with United Fuel.

It was in 1909 that United Fuel Gas Company acquired the distribution properties from United States Natural Gas Company. Two years later, in 1911, Mr. Dudding began reading meters for the young gas company which had about 10,000 customers in the Charleston area. Early this year, as Mr. Dudding prepared to retire as assistant vice-president in charge of United Fuel distribution properties, this same Charleston area contained approximately 67,000 customers.

"When I first came to work for Charleston distribution," said Mr. Dudding, "we read meters about six days a month, and repaired meters for another week. The rest of the time we installed meters, constructed new mains and service lines, and did street repair work.

"We used pushcarts for service work and horse-drawn buckboards and express wagons for installing meters and construction work. About 1913, United Fuel bought a Packard truck for construction work, and one Model-T Ford for the distribution foreman. We hauled men and materials from job to job with this one truck for several years before another one was purchased."

Today, 84 cars and trucks speed natural gas service to the customer's door in the Charleston district, and Charleston distribution is equipped with short-wave radio that gives immediate contact between headquarters and men anywhere in the area. This dispatching system is a big advance to Mr. Dudding, who says, "When we started out in the morning, headquarters had a list of the jobs we would be working on through the day. Then, if we were needed in a hurry, someone would start out on foot and track us down."

Mr. Dudding worked in general distribution work until 1914, when he became foreman of the meter shop. In 1918, he became a cashier and clerk.

From that time forward, he progressed through a series of positions until, in 1952, he was elected assistant vice-president of distribution properties in West Virginia, Kentucky and Ohio.

Mr. Dudding attended public schools in Winfield and Capital City Commercial College in Charleston. His wife, the former Alma M. Martin, is also from Winfield.

The photos on this page were taken on a line-stopping job performed by Delta Natural Gas Company for the Somerset, Kentucky gas company. The location of a new industry necessitated removal of a six-inch line without interrupting service to Somerset.

As you can see, quite a delegation attended this moving job. The use of Mueller equipment greatly speeded the work on this high pressure transmission line. Approximately 1400 feet of line were taken up and transferred to a new location without interrupting service to the city.

Among those in attendance were: Mr. H. D. Peet, president of the Power Line Construction Company, contractor on the job; Mr. Gene Bennett, General Electric engineer; Mr. George Brewer, engineer for Power Line Construction Company; Mr. Russell Johnson and Mr. W. A. Nebett, maintenance engineers for Louisville Gas and Electric Company; and Mr. Bob Cope, Mueller Sales Representative.

All the gentlemen present expressed amazement that the job could be completed at so little cost, and without interrupting service to nearby Somerset.

PROBLEM SOLVED!

Delta Natural Does Job Quick With Our Equipment

LOOKING BACKWARD

Apparently some people who are not natives of this country have a difficult time understanding many of our ways. At least, a certain Frenchman did find certain things a bit difficult, according to the MUELLER RECORD, issue of *September, 1924:*

"Ze American he is funny people. When he takes ze drink, he poots sugar in ze glass to make it sweet—he poots lemon in ze glass to make it sour—he poots ice in ze glass to make it cold—and he poots whiskey in ze glass to make it hot. Then he say: 'Here's to you,' and drinks it himself! Voila—zese crazy Americans!"

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The same issue of the RECORD relates some very funny statements which have appeared on applications for unemployment compensation for injuries sustained:

"Perhaps the star performer was the man who said: 'While nailing up a Safety First sign, ladder slipped and I fell with it.'

"One man, who tried to be most accurate in his description declared: 'While screwing twelve - inch galvanized pipe with twenty-four-inch chain tongs, fell seventeen feet, no inches, approximately.'

" 'Pulling loaded truck when the wheels struck a soft spot and jolt caused eternal injury,' was the nature of the damage sent in by another claimant."

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In *October, 1924,* we run across this definition of a gentleman:

"The word 'gentleman' is defined in this way: A man who is clean both outside and inside: who neither looks up to the rich or down to the poor; who can lose without squealing and win without bragging; who is considerate with women, children and old people; who is too brave to lie, too generous to cheat, and who takes his share of the world and lets other people have theirs."

:: ::

From the issue of *November, 1924:*

"Husband (reading from newspaper): 'Three thousand four hundred and twenty-six elephants were needed last year to make billiard balls!'

"Wife: 'Isn't it wonderful that such great beasts can be taught to do such delicate work?' "

Out of the mouths of babes oft come gems, as evidenced by this item from the March 1925 MUELLER RECORD:

"Returning from his visit to the seashore, little Dean told his family about the ocean: 'Why,' he exclaimed, his eyes big with excitement, 'it jumped and leaped all around! I brought some of it home to show you. Now just look,' he said, as he produced a big bottle of sea water, the contents of which he poured into a pan, where it lay inert and lifeless. 'Huh, that's funny,' he said. 'I guess it died on the way home!' "

:: ::

Oft-quoted is the phrase: It Pays to Advertise. The *July, 1925,* RECORD bears this statement out:

"Many people regard advertising as a miracle-worker. It is not. What it does is attract attention and make people think. In Japan, it has been employed to prevent suicide.

"In this country (Japan), suicide has been as much a matter of fashion as the color of a dress or the shape of a hat. The taking of one's life there has never been a disgrace —rather, it is mostly an honor, or a matter of fashion.

"For the last few years, the attractive city of Kobe has been the fashionable place to commit suicide. They call it SUMA, and the usual method was by drowning in the bay.

"Recently, advertising has come to the rescue in the form of signs erected at the spots most often frequented by depressed persons. Translated, the sign reads: 'STOP A MOMENT! If you feel that there are reasons why you must take your life, please go to Mrs. Jo at the Women's Welfare Association.' The response to the signs has been remarkable, and in the first six months has prevented 162 persons from committing suicide. How many others who read the billboard and went back without telling their troubles to Mrs. Jo will, of course, never be known."

If your ego ever needs deflating, read this bit of scientific information from the MUELLER RECORD, issue of *July, 1925:*

"According to scientific investigation, the ingredients of a man are as follows: Fat enough for seven bars of soap; Sulphur enough to rid a dog of fleas; iron enough for a medium - sized nail; magnesium enough for a dose of magnesia; lime enough to whitewash a chicken coop; potassium enough to explode a toy cannon; phosphorous enough to make 2,200 matches.

The whole collection is worth about 98 cents—and that in a day when things are three times as high as they used to be."

:: ::

Here's an item about carelessness which appeared in the *1925 Hallowe'en* issue:

"An old country man had been around Vancouver for some time without work, but finally got a job cutting slabs into stove lengths. The hazy circle at the outer edge of the circular saw had a tremendous fascination for him, and at last he put his finger over it to see just what it was. His finger came off.

"As he stood gazing at the bleeding finger stump, the foreman came along. 'Well, what's the matter here?' he asked.

" 'Blime if I know," was the reply. 'You see, I just put my finger over the saw like this—my gawd, there's another one gone!' "

Is your mailing address correct as it appears on the last page of this issue? In an attempt to comply with a postal regulation, we would like to use zone numbers if you have them. If you wish any change made, would you please clip your address from the last page, make any desired changes or corrections, and mail same to: MUELLER RECORD, Mueller Co., 512 W. Cerro Gordo, Decatur, Illinois. THANK YOU.

MRS.WILLIAM E. MUELLER
380 SELBY LANE
ATHERTON, CALIF.

MF

IF you have ever watched your child at play—secure, happy, unafraid—you have seen the strongest argument in the world for investing part of every pay in United States Savings Bonds. For bonds, which can protect her present and insure her future, are savings you cannot lose. They're Government-insured up to any amount. They pay 3¼% interest when held to maturity.

Let U. S. Savings Bonds be your stake in the future of our country. Buy them regularly.

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PUBLIC SERVICE ADVERTISING COUNCIL