

1959 —
and YOU

... See Page 4



MRS. ROBERT MUELLER

Mrs. Robert Mueller, widow of a son of Mueller Co.'s founder, Hieronymus Mueller, passed away in her Decatur home on March 4, 1959.

Mrs. Mueller, who was a member of the Company's board of directors, was well-known as a civic and social leader in Decatur. At the time of his death, Robert, her husband, was vice-president in charge of public relations for the firm. He had been with the Company since the 1880's, serving on the board of directors after the firm's incorporation in 1893, first as secretary and then as vice-president.

Mrs. Mueller was a great patron of art and music. A very important part of her life centered in the musical career of her grandson, Robert Eugene Mueller, a pianist.

She had travelled a great deal in all parts of this country, England, Scotland and Wales, the continent of Europe, the Holy Land and Australia. She was also known by many persons in the waterworks and natural gas industries as a result of her attendance, with her husband, at many regional and national conventions.

In addition to her talents as a musician, Mrs. Mueller was a person of unusual beauty and charm. Gifted with a vivid personality, her unfailingly cheerful and friendly disposition made many friends for her locally and elsewhere. She contributed liberally to her church and to charities generally. And many persons were recipients of her private aid and assistance.

In 1952 an accident in her home resulted in severe injuries. Although she was not permanently crippled, her activities were curtailed. Yet to the end, she maintained her previous outlook on life and the greater part of her interests.

Mrs. Mueller, the former Addie Ebert, was born in Dayton, Ohio, but lived most of her life in Decatur. She was graduated from Decatur High School in 1887, and attended music schools in Dayton, Springfield (Ill.) and Decatur. She leaves a son, Ebert B. Mueller, Port Huron, Michigan, and three grandsons, Robert Eugene, John S. and James F. Mueller. A sister, Mrs. Karl Merris, preceded her in death.

MUELLER RECORD

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Preview

The June issue of the *MUELLER RECORD* will bring you an interesting story on one of California's most progressive water utilities—**EAST BAY MUNICIPAL UTILITY DISTRICT**.

EAST BAY was created by vote of the people in 1923 to overcome the acute water supply shortage which faced the communities on the east side of San Francisco Bay. Read how the water shortage was solved by going to the Sierra country for pure snow water, and transporting it to **EAST BAY** through an aqueduct.

And, since atomic-powered submarines are making news these days, the *RECORD* will bring you an excellent feature on atom subs—a feature which points out the many difficulties which had to be overcome before the first sub was launched.



J. THEODORE WOLFE

1959 and YOU

By J. Theodore Wolfe
President, American Gas Assn.
and
President, Baltimore Gas and
Electric Co., Baltimore, Md.

With a record-breaking 32 million customers and current annual sales of more than \$4.5 billion, the gas utility and pipeline industry entered 1959 confident that it will continue its dynamic growth pattern and provide even greater service to millions of residential, commercial and industrial consumers.

As evidence of this confidence, our industry will spend between \$1.7 and \$1.8 billion in 1959 for the construction and development of gas transmission, distribution and storage, with about 97 percent of these funds earmarked for natural gas facilities. Construction outlays will total \$8.1 billion for the four-year period 1958-61, compared with \$5.7 billion spent in 1954-57 and \$5.1 billion in 1950-53.

Throughout the United States today our industry is providing service for 32.1 million utility customers. They receive gas from approximately 1,300 distribution companies supplied by about 100 transmission companies. In addition, some 8.5 million residential customers beyond the present reach of utility mains are served by LP ("bottled") gas.

Customer Increase In 1958

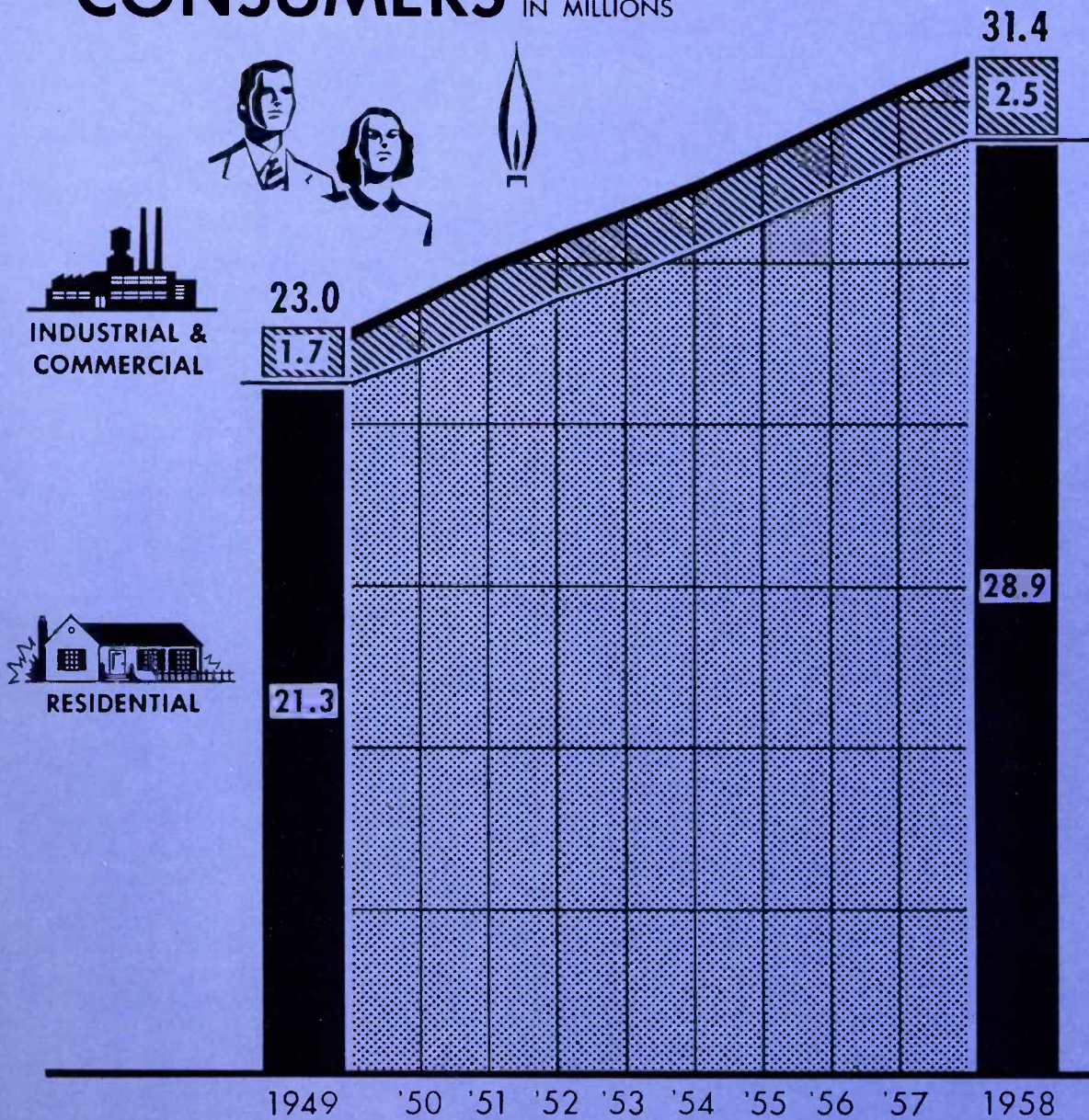
The average number of utility customers served by the industry in 1958 was 31.4 million, an increase of 2.9 percent over the 1957 average of 30.5 million. The year-end total is 32.1 million.

Utility customers receiving natural gas averaged 28.1 million during the year, a gain of 1.1 million or 3.9 percent more than the 27 million served in 1957. Manufactured and mixed gas customers averaged 3.1 million, reflecting a decline of 4.5 percent as former users of these fuels continued to convert to natural gas.

The number of gas utility customers is expected to rise steadily to an estimated 34 million—31.3 million of whom will be residential customers—on the average during 1961, then to an average of 38 million by 1965, including 34.9 million residential users.

With gas replacing oil as the major heating fuel for U.S. homes, the industry's househeating customers now total about 19.1 million, an increase of 6.7 percent over the previous year, and will reach approximately 21.6 million by the end of 1960. Gas was the preferred heating fuel in about 48 percent of the country's estimated 51 million occupied homes and apartments as of mid-1958. Our 19.1 million househeating customers represent 64.7 percent of all residential

CONSUMERS IN MILLIONS



TREND OF UTILITY GAS CONSUMERS (1958 DATA ESTIMATED)

SOURCE: AMERICAN GAS ASSOCIATION

gas customers. A year earlier, with 17.9 million househeating customers, the proportion was 62.5 percent.

Sales and Revenues

Revenues from gas utility and pipeline sales to ultimate customers in 1958 soared to an all-time high of \$4,574 million, a gain of 10.6 percent over the previous record of \$4,136 million a year ago. Natural gas revenues increased 11.3 percent to \$4,227 million, compared with the 1957 total of \$3,796 million. Manufactured and mixed gas revenues were \$330 million, an increase of 2.2 percent above the \$323 million in 1957.

Sales climbed to a record high of 79.8 billion therms, moving 3.1 percent above the 77.4 billion therms sold in 1957. Natural gas sales advanced to a new peak of 77.3 billion therms, up 3.0 percent from 75 billion therms a year earlier. Manufactured and mixed gas sales amounted to 2.4 billion therms, up 4.2 percent.

Underground Storage and Pipelines

We are steadily increasing our underground storage facilities to permit greater year-round utilization of pipeline capacities and facilitate sales by distribution companies to consumers for heating use.

At the beginning of 1958, there were 199 underground storage pools and 7,969 wells in operation in 19 states—primarily in the Middle Atlantic and East North Central regions—with an ultimate capacity of 2.6 trillion cubic feet.

The amount of natural gas actually in storage reached a new high of 1.7 trillion cubic feet at the end of 1957, with a maximum daily output of 8.8 billion cubic feet. Underground storage facilities are equivalent to 22 percent of the industry's gas sales to all types of consumers and nearly 70 percent of total annual sales to residential users.

Capital investment in underground storage fields in 1957 reached \$510 million, up from \$445 million a year earlier. We spent an additional \$67 million for such facilities during 1958.

Moving gas from the well-head to the burner tip requires an intri-

cate network of pipelines stretching to every corner of the country. Approximately 15,300 miles of pipelines and mains were added in 1958, bringing the total to 564,100 miles. The gas industry has extended its lines by some 225,000 miles in the past 10 years alone. Within the next nine years, gas pipeline and main systems are expected to grow to more than three-quarters of a million miles.

Industry Gross Plant

The gross plant of the gas utility and pipeline industry at year-end is approximately \$18.4 billion, up 10.2 percent from \$16.7 billion at the close of 1957. Gross plant will reach an estimated \$19.9 billion in 1959 and is expected to double within the next 10 years, reaching an estimated \$42.1 billion in 1968.

Natural Gas Reserves

Proved recoverable reserves of natural gas reached an all-time high of 246.6 trillion cubic feet at the start of 1958. Even though net production climbed to a record of 11.5 trillion cubic feet in 1957, a net increase of 8.8 trillion cubic feet was attained through new discoveries and other reserve additions totaling 20.1 trillion cubic feet. During the past decade, additions to reserves have been nearly twice as great as the amount of gas withdrawn.

Ultimate recoverable reserves in the United States alone—without taking into account the vast potential sources of supply in Canada and Mexico—have been estimated by the U. S. Bureau of Mines at approximately 1,000 trillion cubic feet, while other authoritative estimates range from 1,200 to 1,700 trillion cubic feet.

Natural gas reserves are concentrated in six states—Texas, Louisiana, New Mexico, Kansas, Oklahoma and California—which have combined reserves estimated at 229.2 trillion cubic feet, or 93 percent of the U. S. total.

Gas Appliances and Equipment

The gas industry intensified its research, development and promotion activities in the field of gas air conditioning during 1958. Some of the problems incident to air conditioning, which until recently appeared difficult, are rapidly being solved. Manufacturers, recognizing

the tremendous sales possibilities, are aggressively developing competitively-priced equipment with which to capitalize on this rich potential market.

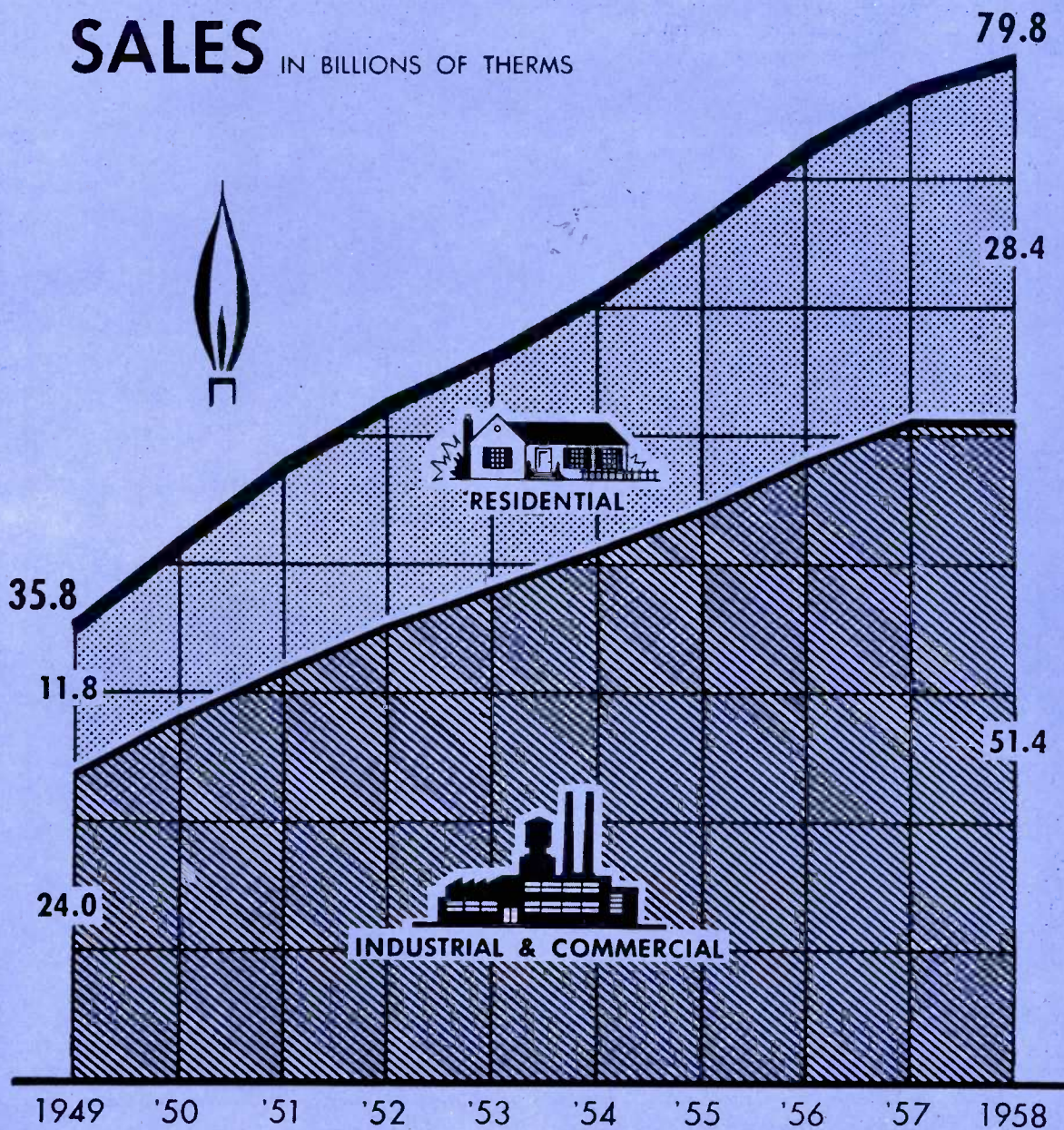
The A.G.A. research program now has developed five air conditioning projects to the operating prototype stage. These include the Swiss open cycle 'sorption system which was demonstrated in 1957, the improved absorption system and the free piston engine-compressor unit shown early in 1958, the long-life engine-driven unit, and the combined crankshaft engine-compressor system which was field-tested on a limited basis during the summer of 1958. The likelihood of a major breakthrough in air conditioning increases as A.G.A.'s research emphasis shifts to a more fundamental approach rather than the exploration and improvement of known processes.

While researchers continued their quest for the possible year-round air conditioning system, the gas industry gave energetic support to existing equipment, stepping up both national and local campaigns to build heavier summer loads through air conditioning. Shipments of nearly 3,500 residential units in the first half of 1958 were double the number shipped in the comparable period of 1957. Year-end estimates place 1958 shipments at approximately 7,800 units, compared to less than 2,500 units a year ago.

The smokeless, odorless gas incinerator, introduced early in 1958, culminated five years of intensive research. The result of design and development by the A.G.A. Laboratories, this promising new appliance—already recognized as a practical solution to many air pollution problems—opens a market which industry sources estimate can yield up to 500,000 sales by the end of 1962. Nearly 48,000 units were sold in 1958, and manufacturers anticipate a 36 percent increase in sales during 1959.

The Whirlpool Corporation's acquisition of the former Serval gas refrigerator early in the year gave the industry added assurance of a bright future for this important load-building appliance. Whirlpool introduced its new model in late

SALES IN BILLIONS OF THERMS

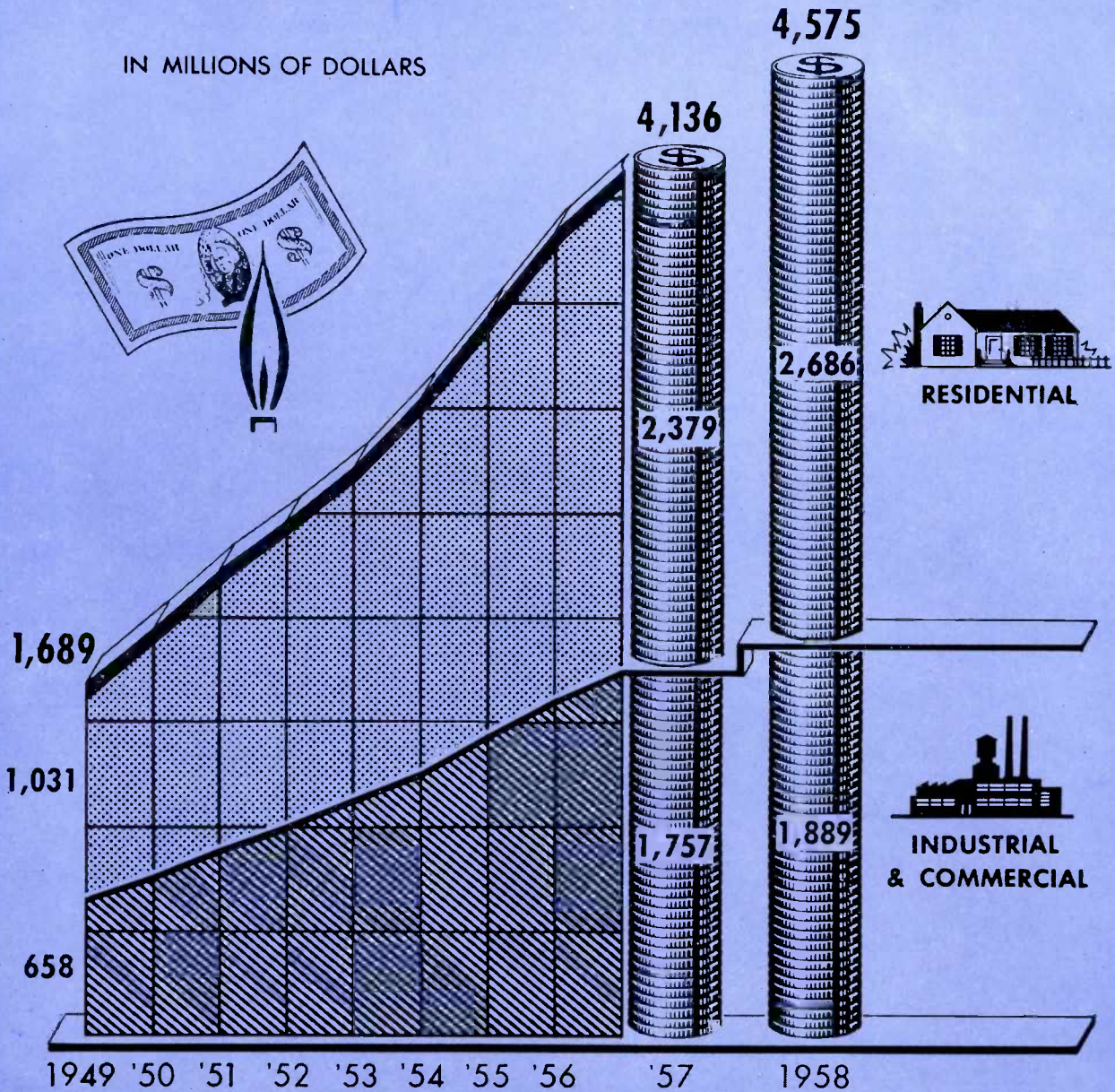


TREND OF UTILITY GAS SALES (1958 DATA ESTIMATED)

SOURCE: AMERICAN GAS ASSOCIATION

REVENUES

IN MILLIONS OF DOLLARS



TREND OF UTILITY GAS REVENUES (1958 DATA ESTIMATED)

SOURCE: AMERICAN GAS ASSOCIATION

spring, part of its plan to market the first complete line of major gas appliances under one brand name. Other manufacturers, including Norco Inc., and Borg-Warner's Norge Sales Corporation, also are producing gas refrigerators or have announced plans to introduce gas-fueled models in 1959. One leading appliance manufacturer estimates that gas refrigerator sales volume will reach one million units annually within the next five years.

Shipments of gas appliances and equipment were generally below 1957 levels as consumers tended to defer purchases of major household and other durable goods, but manufacturers now estimate 1959 total sales will increase by more than 4 percent. Appliance sales showed decided improvement during the final quarter, moving substantially above the last quarter of 1957. This trend is expected to continue through 1959 and into the 1960's.

Sales of gas water heaters and central heating equipment were well ahead of the previous year's total, while range and laundry equipment sales were off from 1957. Built-in range sales climbed by nearly 26,000 units, partially offsetting the drop in free-standing range sales. Manufactures forecast 1959 total sales of nearly 1.9 million units, compared to the estimated 1.8 million in 1958.

A.G.A. Laboratories

Approximately 5,000 gas appliances and accessories were received by the A.G.A. Laboratories and approved as complying with the gas industry's stringent standards of performance. Approved equipment is authorized to display A.G.A.'s Listing Symbol or registered Approval Seal, familiarly known as the "Blue Star." More than half of the units approved by the Laboratories were related to central heating. Seven new smokeless, odorless gas incinerators were tested and approved during the year.

Laboratories inspectors traveled more than 150,000 miles and visited approximately 800 production facilities in the United States and Canada. The number of performance checks at points of production

was increased during the year as the Laboratories intensified activities in the area of quality control.

Eighteen revised standards for appliances and accessories were adopted to become effective at the beginning of 1959. These include a new standard for gas-operated air conditioning systems. Commencing January 1, 1959, the Laboratories also will enforce a previously-adopted requirement which makes automatic ignition mandatory for all burners on domestic ranges. Requirements already in effect cover the automatic ignition of top section burners.

Domestic, industrial and commercial research activities continued at a high level, with 20 projects under study during the year.

Promotion, Advertising and Research

A.G.A.'s highly successful Promotion, Advertising and Research (PAR) Plan completed its 14th year of coordinated activities in the fields of promotion, advertising, utility company research, pipeline research and public information. Gas utility and pipeline companies subscribed more than \$3,550,000 to PAR in 1958, and the 1959 budget has been increased by another \$220,000 to broaden and accelerate PAR activities.

PAR's national advertising program in 1958 scheduled \$1,813,000 in ads appearing in magazines of general and specialized fields. These publications, with a circulation of nearly 38.5 million, delivered more than 250 million sales messages to consumers. Many major appliance and equipment manufacturers cooperated in PAR's direct space-sharing advertising program.

The gas industry's continued national sponsorship of the award-winning TV dramatic series, "Playhouse 90," now in its third season, carried the story of gas and modern gas appliances to an estimated 12 million homes each week. More than \$2.6 million was subscribed by gas utilities, transmission companies and manufacturers to support the industry's television program in 1958. The television budget for next year has been increased to \$3,220,000, which is in addition to subscriptions to the PAR Plan.

Major promotion achievements

include a record-breaking "White Christmas appliance promotion featuring Hollywood's Fred MacMurray and June Haver; the Mrs. America contest, won by Mrs. Helen Giesse of Cleveland, Ohio and sponsored by A.G.A. for the fifth year; and the nationwide activities of the New Freedom Gas Home Bureau. Other activities include extensive gas appliance tie-ins with motion pictures and television, merchandising aids, educational campaigns, and similar programs to expand the appliance market and the gas industry in general.

A major PAR activity for 1959 is the \$25 million Gold Star range promotion program launched in January. Theme of the national advertising phase will be "The World's Finest Range—and It's Gas!" Gold Star ranges will be intensively promoted in 15 "Playhouse 90" television commercials and in leading shelter and trade magazines.

The nation's leading manufacturers will produce "top of the line" ranges, built to Gold Star standards and marketed under their own names. These appliances will conform to the highest and most rigid specifications in gas industry history.

As PAR's Public Information Program completed its fourth year, A.G.A. activities in developing better public relations for the gas industry won national recognition. The Association was awarded the 1958 "Public Relations News" Achievement Award for one of the 10 best public relations programs in the nation and was cited for "the vitality and effectiveness of its program to increase public understanding of the contributions of the gas industry to the American economy."

Major emphasis was placed on investor relations, telling the facts on government in gas, employee recruitment, a series of five regional public relations workshops, a national publicity program on gas, and greater stimulation of coordinated local PR action.

The second annual A.G.A. Public Relations Achievement Award was won by the Quebec Natural Gas Corporation. This new Canadian company gained wide public ac-

ceptance and understanding when it took over a government-owned manufactured gas utility and transformed it into an investor-owned utility serving natural gas to metropolitan Montreal.

Research activities financed by the PAR Plan made significant technical contributions to gas industry progress, particularly in gas air conditioning and domestic utilization. Seventeen new projects were launched during the year, 65 were continued from 1957, and 27 were concluded.

PAR research in the field of air conditioning has carried five major projects forward to the prototype stage. A high-speed radiant oven and a greatly improved flexible gas connector are among the year's most important developments in the area of domestic gas research. In industrial and commercial gas utilization, dramatic progress was made in increasing food production capabilities and in the development of fry top sections and temperature control systems.

Gas operations research in 1958 was highlighted by the development of processes to produce synthetic pipeline gas and formulation of a broad research program on distribution system problems. In pipeline research, we have developed methods of increasing gas deliverability from "drowned" wells, applied radioactive tracers to flow rate determination problems, and developed devices and techniques to reduce noise levels at compressor and regulator stations.

The "Multimatic Wall," a striking new concept of the all-gas home, was completed early in the year under PAR research and publicity exhibited during the 1958 A.G.A. convention. The "Multimatic Wall" features five of the seven major residential uses of gas in one packaged kitchen wall. Equipment for cooking, laundering, househeating, refrigeration and water heating is incorporated in the prototype unit.

Exciting developments which have made 1958 a "break-through" year in so many areas of operation provide the gas industry with a sound basis for great optimism regarding 1959 and the years to come.

STRICTLY Off The Record

"Good Heavens!" cried Whistler when he saw his mother on her knees scrubbing the floor. "Have you gone off your rocker?"

"I'm ashamed of you, son. When George Washington was your age, he was a successful surveyor."

"When he was your age, father, he was President."

"Lucille, darling," said the prospective bridegroom, "now that we are getting married, you should give up your \$40-a-week job."

"Certainly," replied Lucille, "Of course I will."

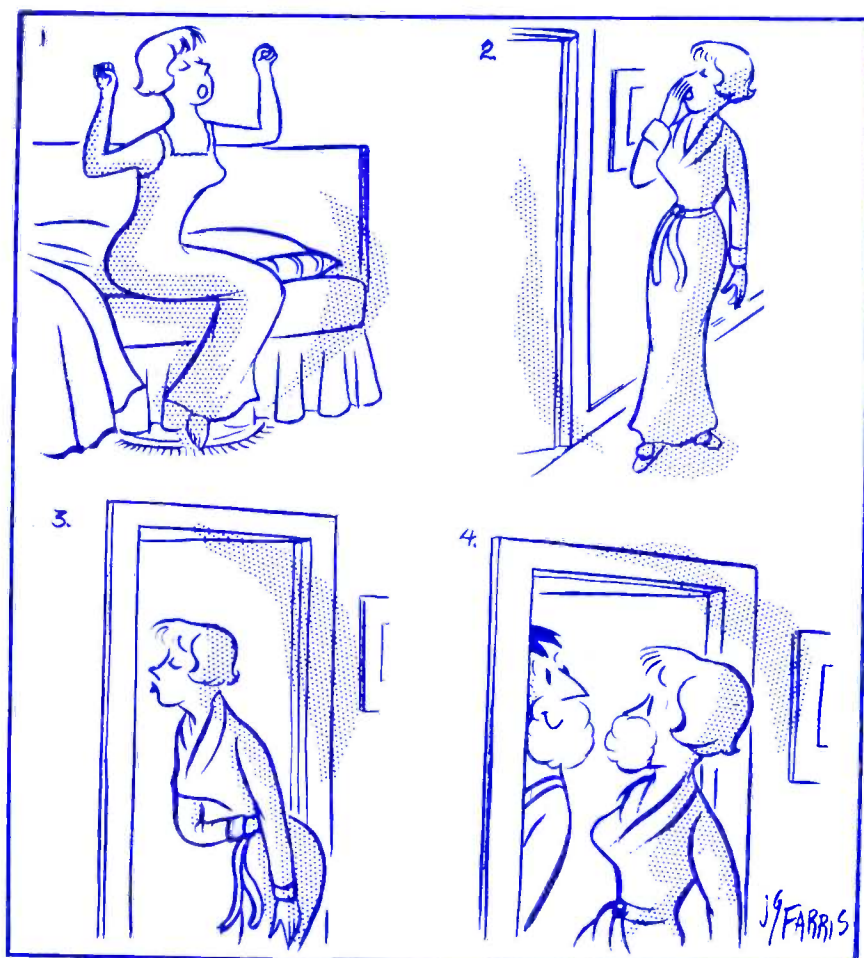
"The way I figure it," the groom-to-be added, "you're gonna have to make at least \$60!"

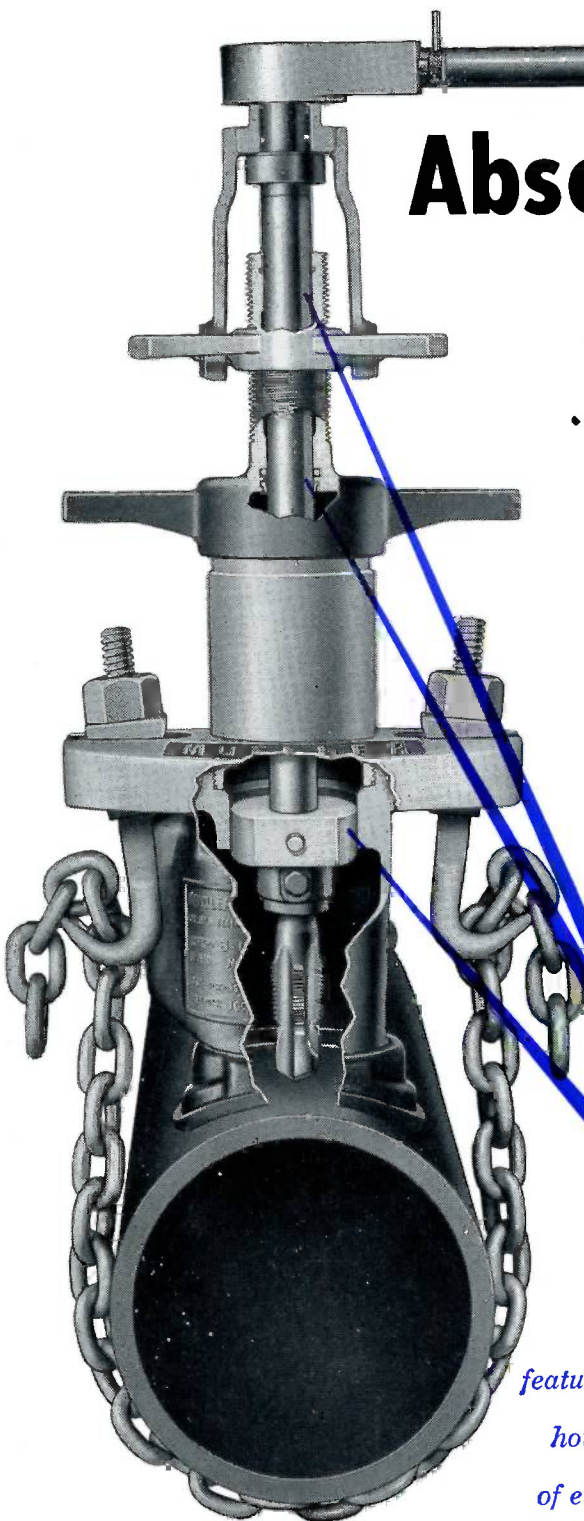
A small boy with a penny held tightly in his little hand walked into a candy store. The proprietor soon became vexed because the boy looked everything over, but bought nothing.

"See here, sonny," he said with exasperation. "What do you want with that penny—the whole world with a fence around it?"

The little fellow thought for a moment, then replied, "Let's see it."

Anxious wife to her neighbor as she watches her husband fishing in a bucket in the living room: "I'd take him to a psychiatrist, but we need the fish."





Absolute Rigidity Means

... longer tool life
... perfect connections

Rigidity on the main . . .

Widely spread chain hook washers of the new B-100 are deeply recessed in yoke—cannot slip off when used on large diameter pipe. Unique design of chain hook keeps chain from twisting while tightening. They all add up to absolute rigidity on the main—machine cannot move during drilling, tapping or inserting operations. Broken tools and leaky connections are eliminated.

Rigidity in the boring bar . . .

Three widely spaced boring bar bearings, two in the feed sleeve and one at extreme bottom of boring bar, assure perfect boring bar alignment. Molded nylon lower bearing supports drill when it first contacts the main. Pipe curvature cannot deflect drill—tools give longer effective life. These three boring bar bearings guarantee perfect centering of tool and stop, assuring a pressure-tight connection.

These are only a few of the many advanced features of the new Mueller B-100 Drilling, Tapping and Inserting Machine. They are typical, however, of the attention to detail in research, design and engineering that become a part of every Mueller product used by the water industry.

**MUELLER®
B-100 Machine**



**MUELLER CO.
DECATUR, ILL.**

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

GAS FACTS

Another \$2 billion construction year for the gas industry seems assured. Early returns in the 12th annual survey by **GAS** magazine show that the first 147 companies to report will spend a total of \$1,281,313,000 in 1959. Since this represents not more than 60 percent of the companies that will report, it seems reasonable to assume that construction budgets of reporting companies will pass \$2 billion for the third straight year. The completed annual survey appears in the April issue of **GAS** magazine.

Montana-Dakota Utilities Co. gives corrosion prevention training to all personnel connected with transmission and distribution activities. Every two years, the company gives a short course which acquaints personnel with various types of coatings, anode installation, rectifier installation and maintenance, and other related subjects. Monthly bulletins are distributed to all these persons, noting new developments in the corrosion prevention program. David P. Price, of Montana-Dakota, details this training program in the March issue of **GAS**.

The American Gas Association has selected "New Horizons for Growth And Service" as the general theme of its 41st annual convention October 5-7 at Chicago's Conrad Hilton Hotel. Co-chairmen of the three-day convention are Eskil I. Bjork, chairman of The People Gas Light and Coke Co., and J. J. Hedrick, vice-chairman of the board of Natural Gas Pipeline Co. of America, both of Chicago.

"The 'New Horizons' theme reflects our primary objective," said Mr. Bjork. "We will offer gas industry executives a clearer picture of things to come so that they may return to their own companies better equipped to meet the challenges of the highly competitive era just ahead."

Gas appliances in daily service in U.S. homes increased by nearly 3.5 million last year, and now total more than 102 million, the A.G.A. estimates in a new analysis of the residential market. These appliances are used by approximately 38 million residential gas customers, including nearly 29 million served by utility companies and about 9 million who use LP "bottled" gas in areas beyond the pres-

ent reach of utility mains.

A.G.A. reports that heating units of all types total nearly 40 million, to account for the largest portion of the gas-fueled equipment currently in use.

Homemakers in 48 states and the District of Columbia are using 32,975,000 gas ranges, 23,100,000 water heaters, 3,430,000 refrigerators and 2,250,000 dryers. Gas incinerators in service total about 465,000.

New Jersey Builder Wins Big Gas Award

Jacob R. V. M. Lefferts of Oak Hill Builders, Inc., Middletown, N. J., received the 1958 Gas Industry Builder Achievement Award on Tuesday, January 20, during the National Association of Home Builders convention in Chicago. The award, initiated last year by the gas industry to recognize outstanding contributions to the home building industry, was presented by C. S. Stackpole, managing director of A.G.A.

Mr. Lefferts, president of Oak Hill Builders, was selected by a special committee representing the nation's 1,300 gas utility companies. Candidates are chosen on the basis of their advanced methods of home construction, applications of new materials and equipment, and the

use of modern merchandising techniques.

The New Jersey builder, who recently has developed the Oak Hill and Applebrook Farm tracts near Red Bank, won national attention during 1958 with one of the all-gas homes in his 650 unit Oak Hill section. Built to accommodate two generations of a family under one roof, this is the first home in the development area ever designed by the prominent Boston architect, Royal Barry Wills. It includes eleven gas appliances with seventeen fuel applications.

The award-winning builder is a graduate of Columbia University, and has been active in North Jersey Coast home-building since 1948.

Chester Stackpole, managing director of A.G.A., presents award to Mr. Lefferts. Looking on is William J. Miners, sales manager of New Jersey Natural Gas Company.



install valves *without* interrupting service!

You can add needed gate valves anywhere in your water system—without a shut-down—when you use **MUELLER®** Inserting Valves. These valves are specifically designed to be quickly, easily installed in any existing 4", 6" or 8" cast iron main under full service pressure. There is no loss of water, no interruption of service and no loss of fire protection.

The gate valve mechanism of the Mueller Inserting Valve is identical to that of dependable Mueller AWWA Gate Valves and Mueller Tapping Valves. This permits standardizing on one type of valve mechanism for all your valve needs.

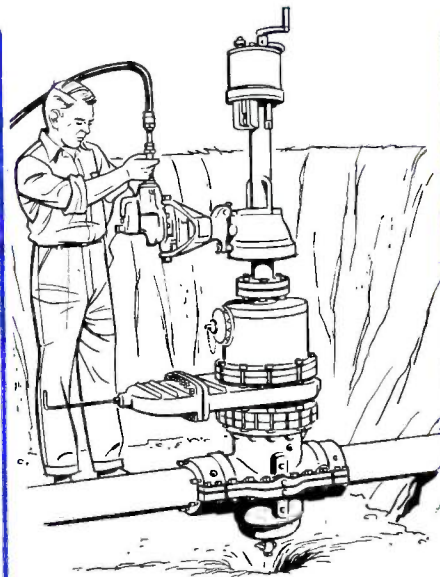
This product feature is typical of the attention to detail in research, design and engineering that becomes a part of every Mueller product produced for the water works industry.



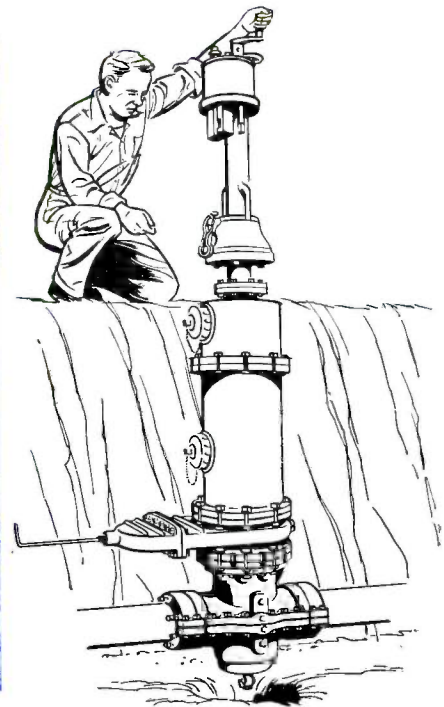
here's how with Mueller Inserting Valves



1. Bolt sleeve halves to main and calk end joints.



2. Cut out section of main with Mueller Drilling Machine.

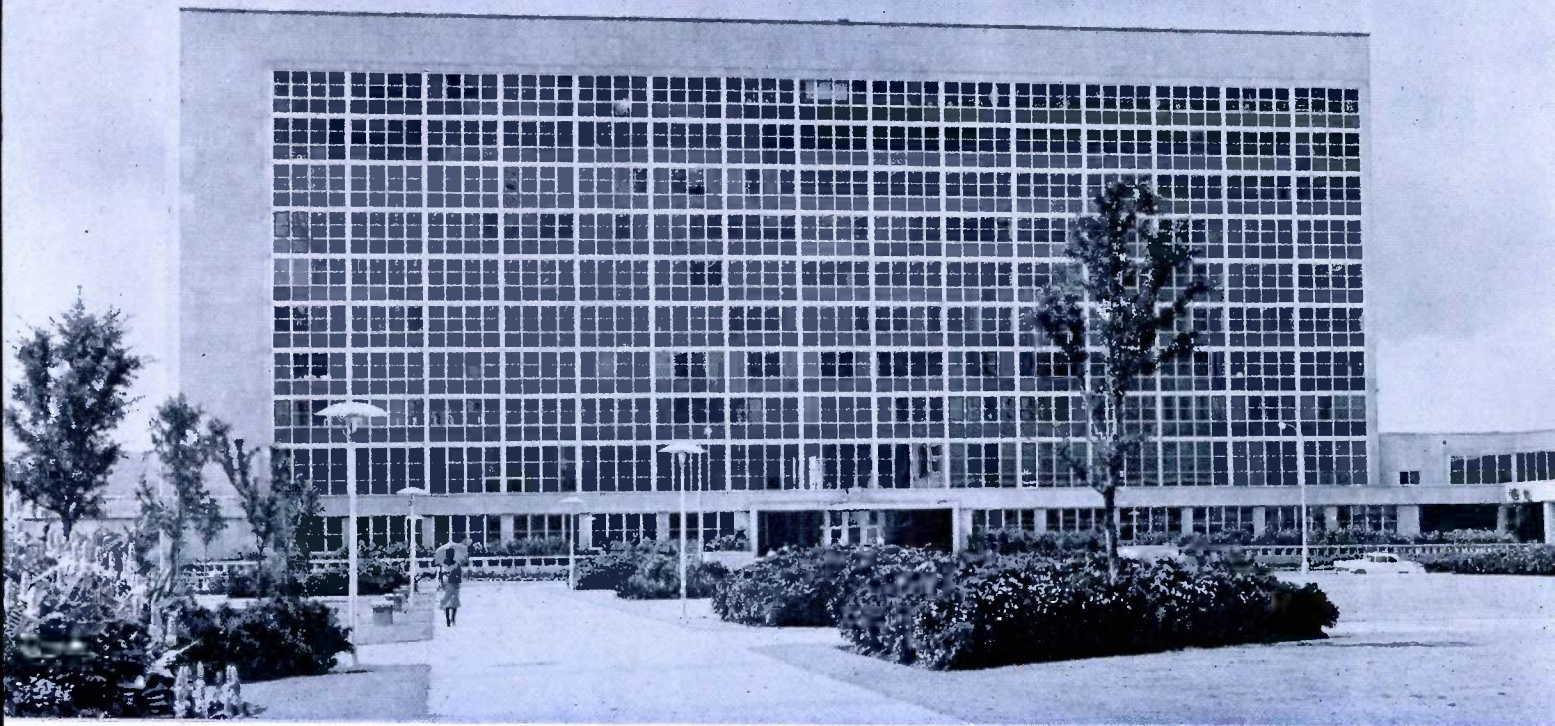


3. Lower valve plug assembly into main and secure.



MUELLER CO.
DECATUR, ILL.

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



New Orleans' new City Hall, dedicated on May 6, 1957, is one of the buildings making up the impressive Civic Center. From this eleven-story building, one looks

toward the Simon Bolivar monument, a gift from Venezuela.

New Orleans—City of a Thousand Excitements

*Sewerage and Water
Board Serves the
Area Well*

New Orleans was founded in 1718 by Jean Baptiste le Moyne, Sieur de Bienville, to insure control of the Mississippi for France. He chose the site of the new town on a slightly high level of ground nestling in a great, sweeping curve of the Mississippi River a little more than a hundred miles from its mouth.

Because the French ministers were unable to visualize the possibilities of the site, and thus refused to co-operate with Bienville in developing it, the first few growth years of the city were not very promising. Father Charlevoix, one of the earliest visitors to the struggling settlement, wrote in 1722 that it consisted of a hundred barrack-like buildings, a large wooden storehouse, a few tents and two or three houses which, he observed, ". . . would be no ornament to a village of France."

Also in 1722, however, Bienville, backed by Adrian de Pauger, finally succeeded in having the capital moved from Biloxi to New Orleans.

M. de Pauger, who was assistant to the Royal Engineer, drew up the

plans of the city according to a French model. He first marked out a square, around which would be assembled all the important buildings of the new community, and from which the city was expected to develop. The square was first named the Place d'Armes, but in 1849 became Jackson Square. It was located on the banks of the river and the new buildings, including St. Louis Church, predecessor of the present Cathedral, were placed back of the square.

This was the beginning of New Orleans—in an area which the city has long since outgrown, and which is known today as the French Quarter, or Vieux Carre.

The Vieux Carre, the outstanding

attraction from the visitor's point of view, appears very much the same now as it did toward the close of the French and Spanish dominations in the late eighteenth century. It is, in fact, a veritable treasury of historic lore that is both romantic and picturesque. The straight, narrow streets—the quaint architecture—the exquisite iron railings—the graceful fan windows—the romantic patios and court-yards—all these combine to form a never-ending fascination.

New Orleans, during its formative years, was a rich prize desired by several nations. It was during the War of 1812 that the British decided to attempt complete control of the Mississippi Valley, and

they selected New Orleans as the key city in their attack. The story, which has been told on the printed page and, more recently, in the movie, "The Buccaneers," is as exciting as the resultant battle was decisive. The turning point was the offer of help to the defending Americans by Jean Lafitte and his pirate horde. After some hesitation on the part of officials, this offer was accepted, and the pirates fought side by side with Andrew Jackson's Kentucky riflemen and Louisiana militiamen. The British were turned back and thoroughly beaten in the Battle of New Orleans on January 8, 1815.

In the course of its long life, New Orleans has had an unusually-colorful history. Romance and adventure have stalked every page of its history and have left their imprints on the modern city. It is in being able to recall these signs of the past in the landmarks of the present that one finds so much to fascinate him in New Orleans. For while the city has grown, it has been preserved, and comparatively little that has occurred in the city during its historic past is not, in some way, carried on to the present.

New Orleans is an old city. It is an exciting city. Most important of all, it is a growing, progressive city. Playing a major role in this continuing growth pattern is the Sewerage and Water Board.

New Orleans today enjoys water, drainage and sewerage systems comparable or superior to many American cities of similar size. There is an abundant supply of clear, pure water that far exceeds in quality the standards of the U. S. Public Health Service. A unique drainage system, with pumping stations having a capacity of more than 17.5 billion gallons a day, keeps the city from flooding during the frequent rains. An intricate sewerage system is capable of disposing of 130 mgd. But all this was not always so.

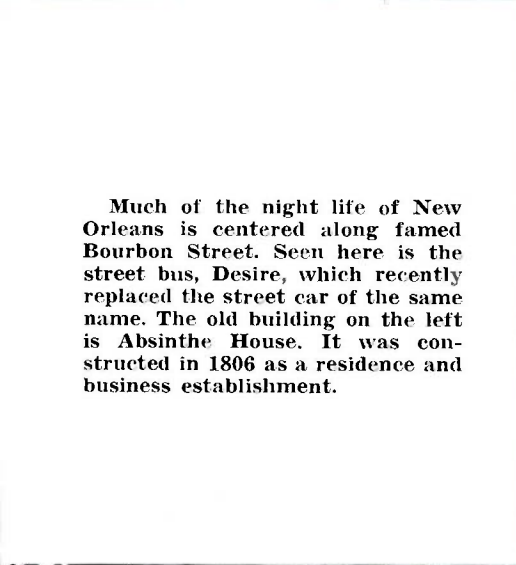
In 1718 the natural bank of the river was only fourteen feet above sea level. As a result of its unusual topography, the city was subject to periodic flooding from the Mississippi and Lake Pontchartrain, as well as frequent inundation from the high intensity rainfall. Com-



From left to right: John E. Morrill, secretary of the Sewerage & Water Board; Albert Wyler, City Engineer; and Mayor deLesseps S. Morrison.



This historic landmark, the Cabildo, was built in 1795. From it, Spain's governors ruled not only New Orleans but the entire Mississippi Valley west of the great river. Beneath its roof was enacted the final scene of the world's greatest real estate transaction—the Louisiana Purchase.



Much of the night life of New Orleans is centered along famed Bourbon Street. Seen here is the street bus, Desire, which recently replaced the street car of the same name. The old building on the left is Absinthe House. It was constructed in 1806 as a residence and business establishment.



Fancy ironwork is a notable characteristic of most of the balconies in the older section of the city. In this photo is a view of Orleans Street, looking toward the rear of the famous St. Louis Cathedral.



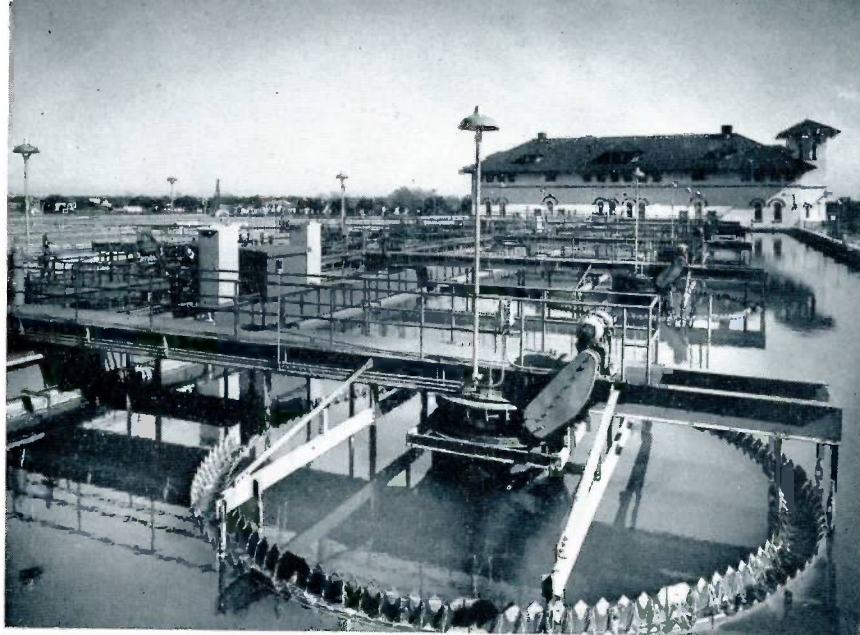
Long known as the garden spot of the Deep Southland, Bayou Teche was immortalized by Longfellow in his poem "Evangeline." One of the connecting links between the past glories of the Teche country and present times is "The Shadows," home of William Weeks Hall. It was built in 1830 by the Weeks family, and is of Roman Doric architecture.



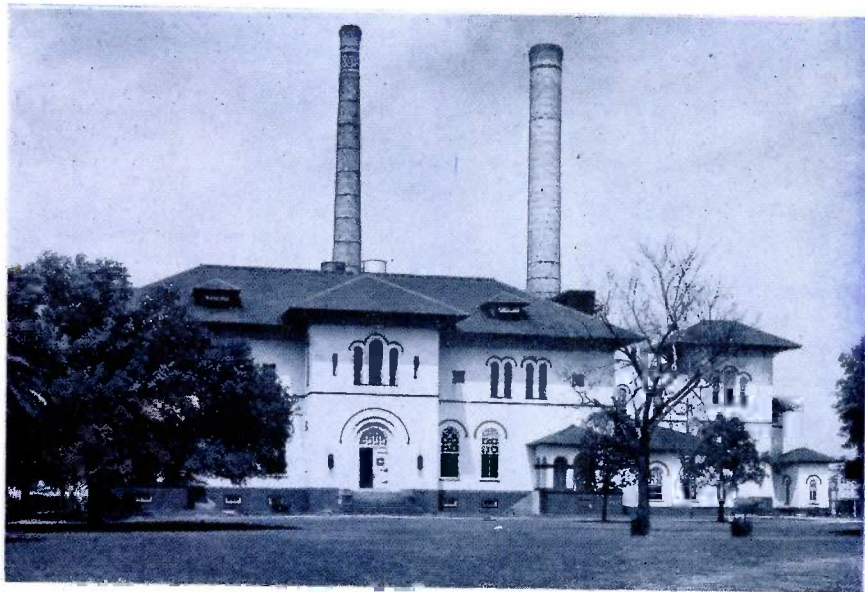
The Greater New Orleans Bridge, spanning the Mississippi between downtown New Orleans and the rapidly-growing West Bank, was opened to traffic in the spring of 1958. This \$65 million structure is the country's longest cantilever bridge, with the cantilever span covering a distance of 1575 feet.

Come Mardi Gras Day in New Orleans and all traffic stops on Canal Street, and the 170-foot wide thoroughfare becomes a sea of milling humanity. This photo shows the Rex parade creeping through the throngs. The first organized Mardi Gras street pageant was held in New Orleans in 1838.

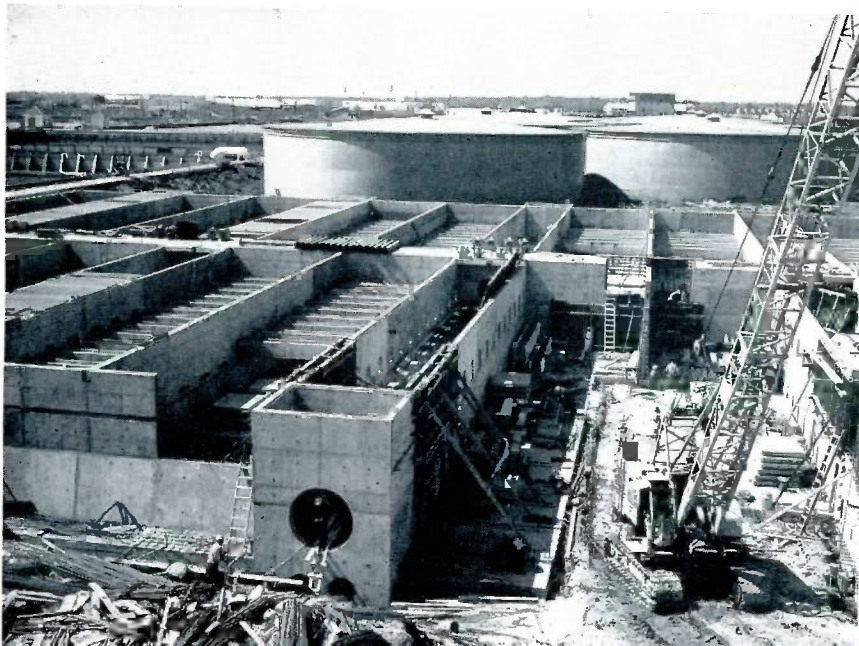




Above photo shows new coagulation units used by the Sewerage and Water Board. Below is the attractive water purification plant.



New filtering equipment is under construction at the water purification plant in the photo below.



pletely surrounded by water, it was referred to as the "Isle of Orleans."

Often, after one of these floods, the inhabitants had to wade through the streets, or be rowed in small boats, to take care of their businesses. As late as 1884-85, illustrations in the daily newspapers showed the main business section flooded with two to three feet of water, and the inhabitants either wading or rowing through the streets. Prior to 1893, some part of the city was always flooded or under water.

Drinking water, or water for general use, was either collected in large cypress cisterns that stored rain water from the rooftops, or taken from the river and allowed to settle in large earthenware jars. No attempt was made to purify this water.

Ineffectual and primitive methods were the only ways to combat fire. In 1788, and again in 1794, the greater part of the city burned to the ground. Less than two blocks from the fire, over 48 billion gallons of water a day were rushing down the Mississippi—more than the present city uses in a whole year.

By 1893, it became obvious to the leading members of the community that, if New Orleans were to continue to grow, the city must be drained and kept dry, an adequate supply of potable water for drinking and fire protection must be provided, and a sanitary sewerage system installed. Planning was begun in that year, and in 1896 the New Orleans Drainage Commission was organized to carry out these plans.

To further consolidate this program and operate it more efficiently, the drainage, water and sewerage facilities were placed under a single board.

The New Orleans Sewerage and Water Board was created by Act Number 6 of the Extra Session of the Louisiana State Legislature of 1899, as amended, which was adopted as a constitutional amendment to develop, operate and maintain these facilities.

The Board consists of the mayor, two at-large members of the Council, one of the district councilmen selected by the council, two members of the Board of Liquidation for the City Debt, and seven citi-

zens appointed by the mayor in accordance with the law, for overlapping terms of 12 years.

Between 1897 and 1915, \$27,500,000 was spent on the construction of water, drainage and sewerage facilities. The funds came from two sources: a special two-mill tax on all property, and one-half of the surplus from the one percent debt tax.

This was a bold step for a city at that time. Present-day construction costs are nearly seven times those of the 1900s. At current prices, this program would have cost nearly \$192 million. Furthermore, this program was financed by a population of about one-half that of New Orleans today.

A basic water supply is no problem for New Orleans and the Sewerage and Water Board. The great River provides that in unlimited quantity and, in spite of uses made of it in upstream areas it is of excellent quality—showing little evidence of industrial pollution and lending itself ideally to the conventional methods of purification.

The raw river water is moderately hard, and carries an average of 600 parts per million of suspended matter, consisting mostly of fine clay particles which no practicable amount of plain subsidence can remove and no form of filter will eliminate. Mississippi River water is treated with lime and small amounts of sulphate of iron. By such a process, New Orleans has had an abundant supply of clear, pure water of the highest and most desirable quality.

Raw water is brought from the river through two 48-inch cast iron pipes under the levee, and one 72-inch steel pipe over the levee to a low-lift pumping station at the river. From there, three electrically-driven pumps (any two of which can pump 150 million gallons per day) send the water to the main plant through two 48-inch pipes.

Raw water, after reaching the purification plant, is processed in two stages. In the primary stage, the addition of lime, a 30-minute mixing period, followed by two hours of sedimentation, takes place. In the secondary stage, ferrous sulphate is added from the primary stage, mixed and coagu-

lated for 30 minutes, and allowed to settle for eight hours, then passed through sand filters. Chlorine is added after primary treatment and immediately prior to filtration. A minute amount of hexametaphosphate is added to prevent scale formation and growth of filter sand.

Approximately 36 billion gallons of water are treated at the two purification plants each year, and approximately 87,000 tons of solid matter are removed therefrom.

Purified water is distributed through more than 1,120 miles of mains ranging in size from 50 inches to four inches. It is consumed through more than 123,000 services, ranging in size from $\frac{5}{8}$ inch to 16 inches; nearly all of these services are metered.

One interesting note is that consumers are allowed free water for sewerage purposes, which represents about one-fourth of the total domestic consumption.

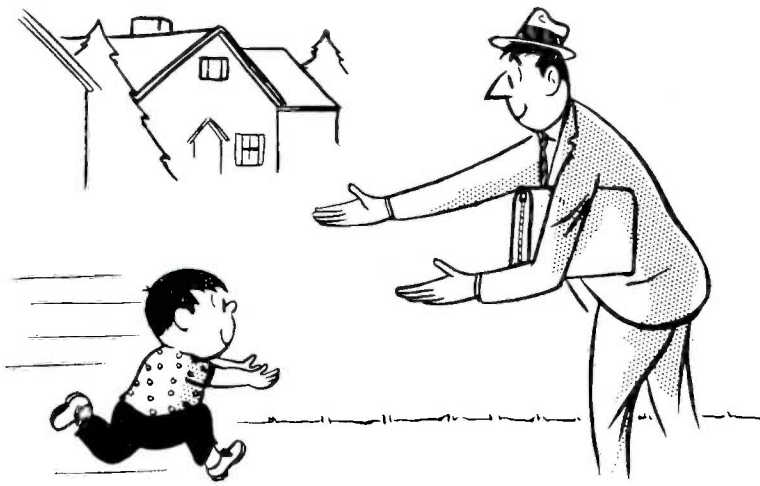
New Orleans has experienced tremendous growth until, today, it is the third largest city in the United States in total area—covering 363.5 square miles. Usable land area in New Orleans is, at present, about 199.5 square miles.

Below, concrete pipe is laid in Mirabeau Avenue to increase the drainage potential. This area will then be covered and transformed into an attractive parkway.

Providing for industrial and residential growth has been a prime consideration of the Sewerage and Water Board, and the Board has done its job well. Its continuing program of expanded and improved service in water supply, drainage and sewerage will assure New Orleans a rapid rate of growth and progress.

This photo shows the covering process on the St. Roch Canal.





JUST

The good old days: When policemen didn't hide behind signs, but took their chances in traffic just like everyone else.



Early in the fight, one of the boxers was knocked to the canvas. He didn't seem hurt, but rose a little too late to beat the 10-count.

"What was wrong with you," demanded his manager. "You weren't hit hard. Why didn't you get up?"

"No, I wasn't hurt," replied the irritated fighter. "But I was so darn mad about being knocked down by that punk that I decided to count to 10 before I did anything."

"During all these years," an old lady was asked concerning her golden wedding anniversary, "have you ever thought of divorce?"

"No," she replied. "Just murder."

A psychiatrist, visiting an insane asylum, noticed a patient all alone in a corner, busily scratching himself. "Why do you spend your time scratching yourself?" he asked.

"Because," said the inmate, "I'm the only person in the world who knows where I itch."

Definition of the U. S. automobile: A 4-eyed, 2-horned, pink and purple ethyl-eater.

One of the most difficult things to give away is kindness, for it usually is returned.

Small boy in barber's chair: "I want my hair cut like my daddy's —with a hole on the top."

Two things in life I've had and ample:

Good advice and bad example.



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"Imagine the bank telling me I'm overdrawn, when I still have nine checks left in the book!"

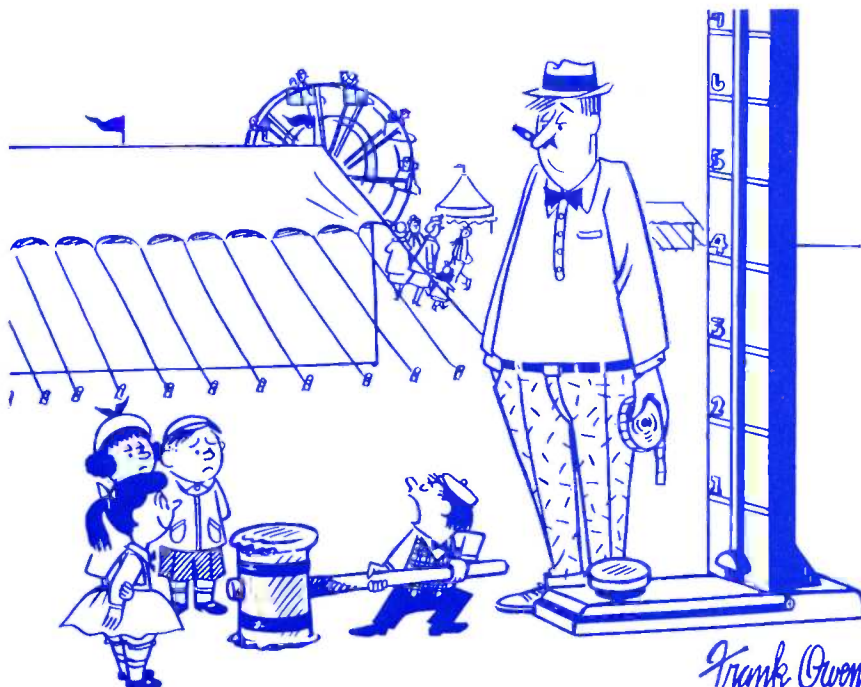
FOR LAUGHS

A little girl was showing her playmate her new home. "This is daddy's den," she explained as they entered one room. "Does your daddy have a den?"

"No," was the answer, "my pop just growls all over the house."

—:—

There are bigger things than money. For instance: bills!



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"Stand back! Don't get caught in the suction!"

No one can deny that a yawn may be bad manners—but at least it's an honest opinion.

—:—

Middle age is the time of life when your idea of getting ahead is to stay even.

—:—

Civilization is a system under which a man pays a quarter to park his car so he won't be fined a dollar while spending a dime for a nickel cup of coffee.

—:—

Don't expect too much of any set of rules. Think how long it is taking to put over the ones Moses presented.

—:—

A man took his great dane to a vet. "Doctor," he said, "you've got to do something. My dog does nothing but chase sports cars."

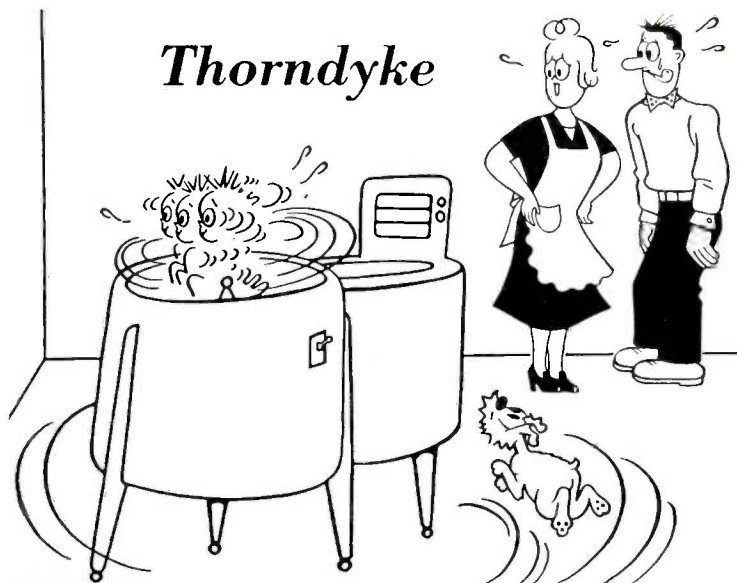
"Well, that's only natural," said the doctor. "Most dogs chase cars."

"Yes," the man agreed. "But mine catches them and buries them in the back yard!"

—:—

"Pardon me, sir, but aren't you putting your saddle on backwards?"

"Some cowboy you are! You don't even know which way I'm headed!"



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"This part's all right. It's when he goes through the wringer, I worry!"

. . . AROUND THE WATER INDUSTRY . . .

Paul Weir Merits Praise

On March 17, the ATLANTA JOURNAL (Atlanta, Ga.) paid tribute to Paul Weir, General Manager of the Atlanta Department of Water Works, on the occasion of his birthday. The article, authored by Ernest Rogers, said in part: "Mr. Weir, in case you are a stranger or haven't lived here but a few days, is head of one of the finest water works systems in the United States—ours Mr. Weir is a red-haired ball of fire whose enthusiasm is felt all the way up and down the water works organization. He sleeps and breathes water, and, naturally, drinks it. As a matter of fact, he has been known to suggest that, because of its excellence, Atlanta's tap water should be bottled and sold to communities less fortunate Atlanta's water works system, which has grown from an old tank atop an artesian well at Five Points to 2,000 miles of the most modern water delivery system in the country, owes much of its growth and efficiency to Paul Weir There is no point in telling Paul Weir that he should be proud of the Atlanta water works system, He already is. But on his birthday it seems fitting to tell him that we are proud of it, too, and the devoted people (with him at the head of the list) who have made it possible."

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Challenges Noted by Raymond Faust

A great majority of the 19,000 water utilities in the United States and Canada are in a precarious position physically and financially, and many lack professional leadership, Raymond J. Faust, executive assistant secretary of AWWA, warned recently.

"The water industry today is facing momentous challenges," Mr. Faust declared in a speech made at the Basic and Advanced Water Works Schools at the University of Minnesota. "The first challenge is to recognize and eliminate the many deficiencies in the existing water systems. The second is to secure professional management. The third is to obtain realistic rate schedules. I believe these challenges can be met if we recognize our present position and follow that recognition with aggressive action." Mr. Faust declared that by 1975, the water industry must be ready to serve 60 million people in addition to the 142 million now served by public water supplies in the United States and Canada.

—:—

New Plants Take To Inland Waterways

Availability of process water continues to be one of the main reasons for construction of new plants along inland waterways. Although industrial building showed an overall drop of 31 percent during 1958, development of new plants along inland waterways actually increased slightly. About 40 percent of these were chemical and petroleum plants, whose water requirements for washing and cooling are very large.

—:—

Can An Enemy Control Our Weather?

Enemy control of weather through the application of new scientific techniques could be a more serious threat to the national security than any great nuclear bomb or missile, according to Rep. V. L. Anfusco of New York. He warns that the U. S. should put more emphasis on studying the possibility of weather control, and states that the Russians are working on a half dozen schemes for altering Arctic climate. If they were to succeed in melting parts of the polar ice cap, Anfusco says, Manhattan Island and other coastal areas of the country could be submerged by a rising ocean level.

Sen. Clinton Anderson of New Mexico also feels that weather control may be the ultimate weapon, and points out that an enemy might be able to deny us water for drinking and crop irrigation, or else might be capable of causing severe floods. (Flood losses in the U. S. average more than \$700 million a year, according to the Corps of Engineers.)

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Recording Our Thoughts

Mr. Claud Robinson, Superintendent of Water and Sewers of Vernon, Texas, recently became the twenty-fourth man in the history of the state to receive "A" certification in both water and sewerage.

Mr. Robinson has established quite a record since assuming his present position in 1948. He served as president of the Greenbelt Water & Sewage Assoc. for four years; he has been vice-president of the Texas Water Works Assoc. He has accumulated 370 hours in short schools and association meetings.

Mr. Robinson acquired his "A" water certificate in 1957, and his "A" sewerage certificate in 1958. When he became Superintendent in 1948, no employees held certificates. Now, as a further tribute to his enthusiasm and determination, the Department holds ten certifications in water and six in sewerage.

John W. Hodgson, Sr., formerly manager of the East Jefferson Waterworks District since 1940, received an October appointment as director of the new Jefferson parish (La.) water department, according to an announcement by parish president Charles W. Spencer. Mr. Hodgson had been associated with the waterworks since its inception in 1929.

All water districts in the parish have been consolidated into a single department under the parish government.

In speaking of Mr. Hodgson's qualifications, Mr. Spencer said, "His years of experience in successfully developing a water system in

East Jefferson during a period of growth unprecedented in any area in the world shows that he knows his business. Besides this, he meets the council-adopted requirement that appointees be residents of Jefferson parish."

Under Hodgson, the capacity of the East Jefferson water works increased from three million gallons daily for 3000 customers to 24 million gallons serving 30,000 customers.

Hodgson, a native of New Orleans, is married and has two sons. He is a past trustee of AWWA, and a member of the New Orleans Chamber of Commerce. He is a charter member of the Jefferson Lions Club and the New Orleans Moose Lodge.

This writer wishes to offer his sincere thanks for the many courtesies extended by personnel of the Sewerage and Water Board during a visit there to obtain material for the story on New Orleans which appears in this issue.

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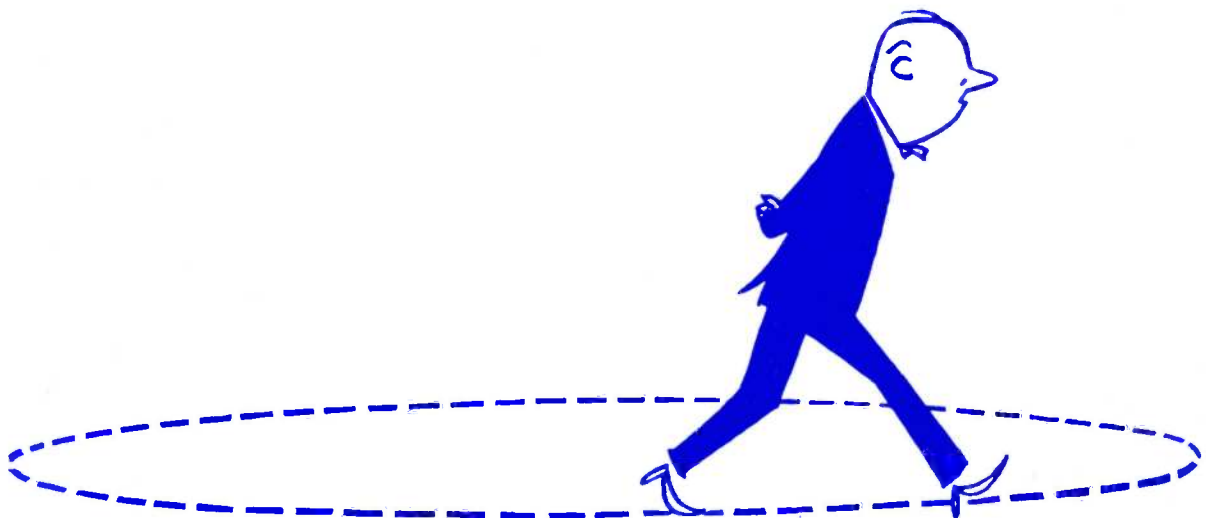
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