SEPTEMBER, 1957

MUELLER Record

Centennial Issue

A CENTURY OF SERVICE . . .

In September of 1857, Hieronymus Mueller laid the firm foundation upon which Mueller Co. was built. This Mueller Record Centennial Issue tells the story of Mueller Co.—past, present and future—and of the vital industries it serves.

"A Century of Service" is a commemorative tribute to the companies and busy men who provide an ever-dependable supply of pure, fresh water for drinking, washing, industry . . . who supply clean, economical gas for heating, cooking, manufacturing. On these people, much of our present high standard of living, yes, even our economy, is dependent.

As we enter our second century of service, we pay tribute to these people, not only because the success of our first century was made possible by them, but more so, for the tremendous contributions they have made and are making to our American way of life!

Albert G. Webber, Jr.

Albert G. Webber, Jr.
President
Mueller Co.

AT YOUR SERVICE

Water and gas—your ever-ready servants—are taken too much for granted in our modern American age. These vital necessities appear at the turn of a wrist, yet there's little thought of the vast facilities required to supply clear, pure water and clean, blue flame. Take the Smith family for example . . .

THE quiet of the spring Saturday morning was shattered by a yell. A splash of cold water had awakened Bob Smith, and he rose with a start to face four laughing faces.

One of the four Smith children held a full water glass in his hand. "Come on, Dad," he said, "You promised you'd get our swimming pool out today!"

Bob's expression relaxed into a grin. "So I did, but you don't have to drown *me* as a reminder. Now clear out and let me dress. Then we'll get to your pool."

The little ones trotted off, and Bob followed to the bathroom. With a twist of his wrist, water flowed

from the showerhead. A simple adjustment produced the exact mixture of hot and cold water. Bob sang as he soaked in the warm, brisk spray.

He dressed quickly, spurred on by the aroma of hot coffee. In the kitchen, wife Betty stood by the range, adjusting the steady blue flame under a skillet filled with bacon.

Bob walked to the sink and filled a glass with water. The liquid was sparkling, clear, and Bob emptied the glass before turning his attention to the bacon frying on the gas stove.

He joined the little Smiths at the table as the family was served its breakfast. Milk glasses were filled and refilled from containers in the Smiths' quiet gas refrigerator.

Breakfast over, the four children resumed a plea to get their pool into use. Bob reluctantly gave in, got the pool from the garage and carried it to the backyard. Two of the children insisted on holding the hose as the level of the pool rose rapidly.

But Mother Smith would allow no wading until the water warmed, so Bob and his brood took a tour of the yard. Dry ground in the front yard prompted the placing of the sprinkler, which soon cast a rain-like spray over the yard.

Bob left the children to play and entered the house.

continued –

AT YOUR SERVICE
continued

Betty, holding a pail, blocked his way. "Since you're a man of leisure today, how about the windows?"

"Oh nuts, I was going to rest today," he pleaded. But Betty was determined and Bob went to the basement for his stepladder. The washer ended its cycle as he passed by; Bob transferred the clothes to the dryer, setting the dials so the gas flame would safely dry the clothes in less than an hour. He put another load of clothes in the washer and turned on its automatic cycle. Hot water sprayed into the tumbling clothes.

Bob's window washing assignment went fast and, since all the equipment was at hand, he decided to wash the car. The garden hose was pressed into service for the chore of cleaning the car.

The beckoning odor of vegetable soup took Bob into the house. Betty was preparing lunch, frequently turning to the convenient sink for water for cooking. The soup simmered over the even flame.

The children had been attracted by the fragrance, too, and as they filed in, Betty ordered, "Go wash your hands and faces."

The sound of running water gave weak proof that her orders were being followed. Bob washed his at the kitchen sink, then filled glasses with water for the meal.

The children hurried through their lunch, for swimming was allowed after lunch. Bob helped Betty with the dishes, and the hot water left them bright and clean.

After dishes, Bob shaved, steaming his face with hot water. A magazine caught his eye, and he lay

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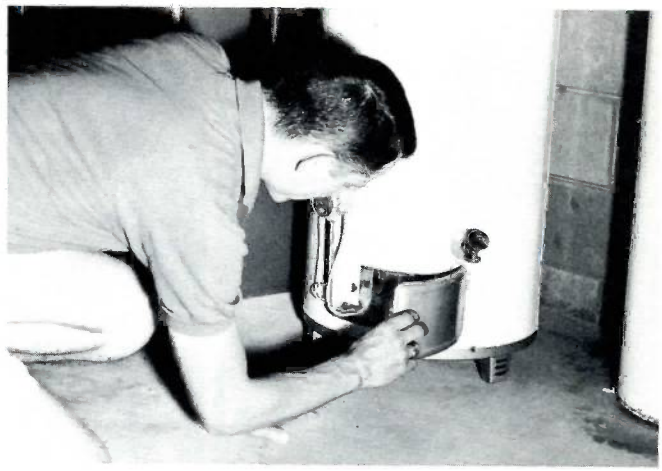


AT YOUR SERVICE *continued*

down to read, but in a few pages, he was fast asleep. The wail of a siren woke him with a start. He rushed to the door as two fire engines raced by. Their sirens wailed to a stop a few blocks away, so Bob hastily gathered his family and rushed to the scene. It was just a brush fire and strong streams of water were pouring from the hose hastily strung from a convenient hydrant. The fire was out in minutes and as the Smith family trooped home, Bob patted the hydrant before his house. It was the best kind of insurance.

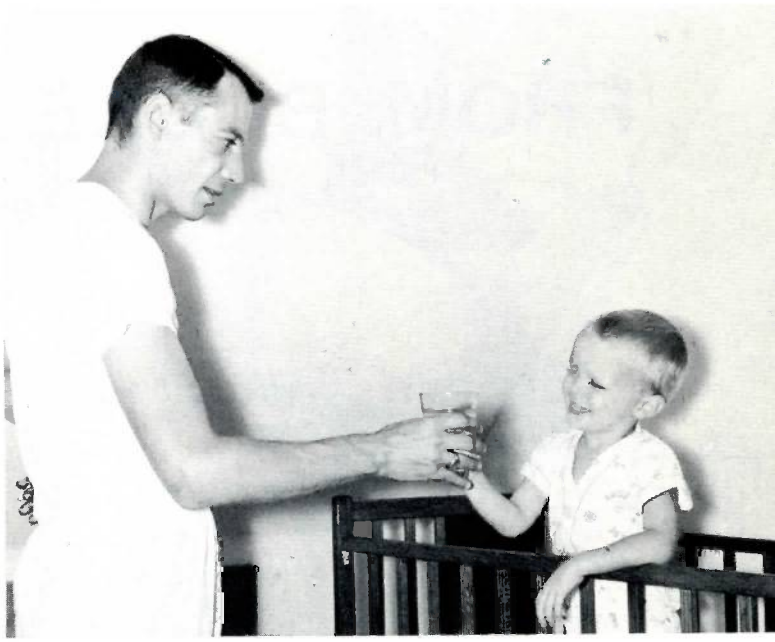
Dinner was started when the family got home, and as the children told Betty about the fire, Bob went to the basement. A check of the water heater showed the blue flame burning steadily. The efficient gas furnace sprang into action as he turned and checked its controls. Bob appreciated the automatic, constant heat after feeding and cleaning a hungry furnace for

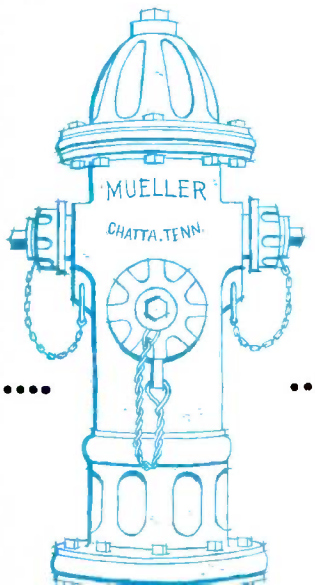
many years.

Betty interrupted his thoughts with a call to dinner. She was setting glasses of water on the table as he entered the kitchen. The sparkling water reflected in the eyes of four tired youngsters who silently ate their dinner.

"When you finish your meal," said Bob, "you can watch television for a while before you go to bed!"

Bob turned the thermostat up slightly, so the furnace would take the evening chill off the house, then settled into his favorite chair, which was soon surrounded by youngsters. When their programs were over, the kids were trundled off to bed, and Betty and Bob decided to watch the late movie. With the show over, the Smiths retired, and as Bob relaxed for sleep, a small voice broke the stillness of the night, "Daddy, I want a drink of water!"





And so a typical day of a typical American family begins and ends with water—and the faithful servants, gas and water, played important roles ALL through the day.

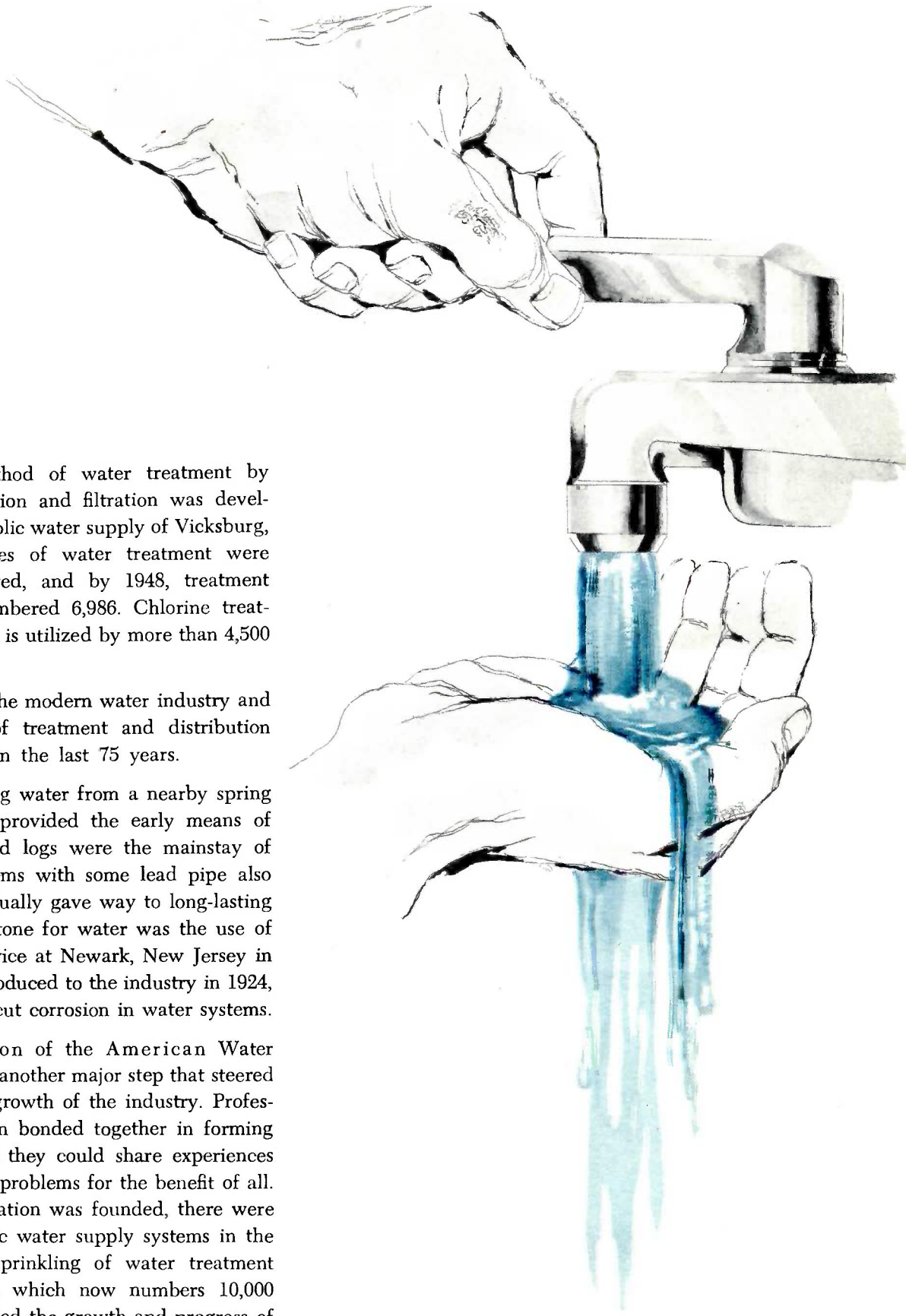
One hundred years ago, water was sold for a penny a bucket by peddlers in the streets. Today, 142 billion gallons of pure, fresh water is supplied each day through modern, efficient water systems to consumers throughout the nation.

FROM BUCKETS TO BILLIONS

AMERICA'S outstanding water industry, which has helped make this country a healthier, cleaner, better nation in which to live and work, is a far cry from the old oaken bucket of a hundred years ago. Today, 17,500 American water systems supply water to 112,000,000 homes and industries in 48 states . . . an average of 154 gallons per person each day. The first public water system was put into operation in Boston in 1642. Although limited to a single "neighborhood" within the city, this system was "public" in both purpose and performance and so is considered the first of all American water works.

It was not until a century later that the first system designed to serve an entire community was put into operation. This was the piping of water from a spring down the main street of Schaefferstown, Pa., to supply that entire village. Yet by 1800, there were only 17 systems in operation in America.

First treatment of water for consumption was in 1829 at Lynchburg, Virginia, by settling basins that removed silt from raw water. Fifty years elapsed before



the first practical method of water treatment by coagulation, sedimentation and filtration was developed to improve the public water supply of Vicksburg, Mississippi. Other types of water treatment were developed and improved, and by 1948, treatment plants of all kinds numbered 6,986. Chlorine treatment, first used in 1908, is utilized by more than 4,500 systems.

Thus, development of the modern water industry and present-day methods of treatment and distribution have taken place within the last 75 years.

Short pipelines, bringing water from a nearby spring or stream by gravity, provided the early means of water supply. Hollowed logs were the mainstay of these early water systems with some lead pipe also being used. These gradually gave way to long-lasting cast-iron pipe. A milestone for water was the use of 42″ metal pipe for service at Newark, New Jersey in 1892. Copper pipe, introduced to the industry in 1924, is now widely used to cut corrosion in water systems.

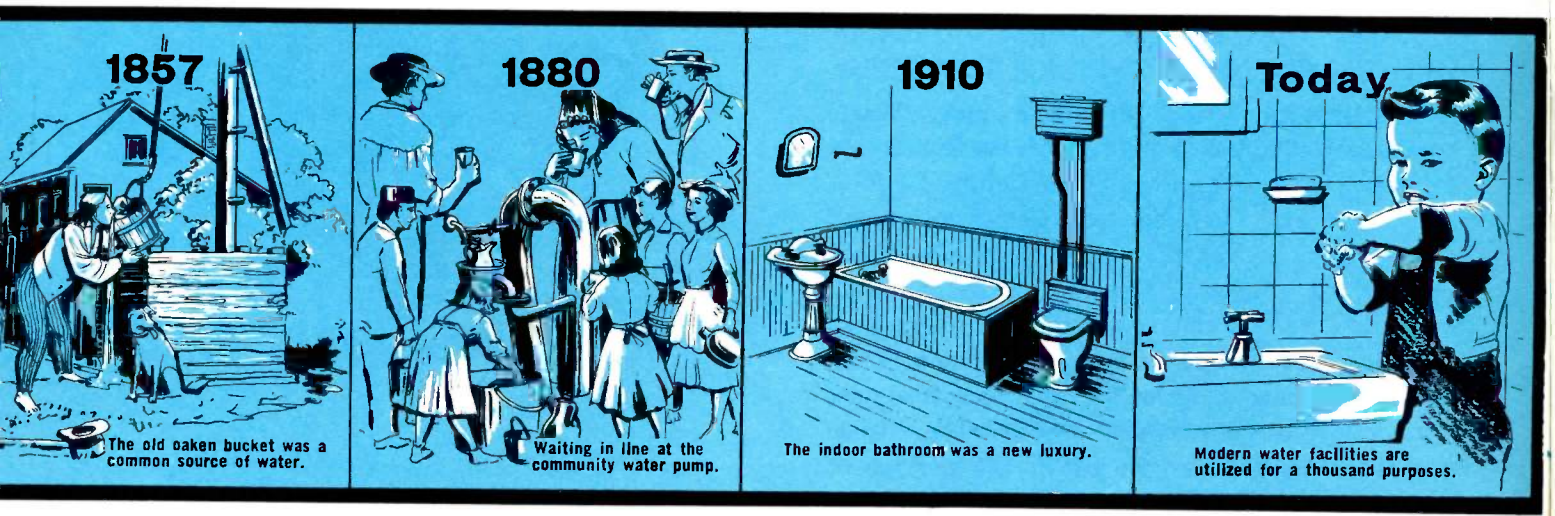
In 1881, the formation of the American Water Works Association was another major step that steered the development and growth of the industry. Professional water works men bonded together in forming the association so that they could share experiences and work out common problems for the benefit of all. At the time the Association was founded, there were fewer than 1,000 public water supply systems in the country and only a sprinkling of water treatment systems. The AWWA, which now numbers 10,000 water works men, has led the growth and progress of the industry for 75 years.

The 656 meager water systems, supplying service to 10,000,000 consumers in 1880, began to multiply after people had experienced the comfort and convenience of a regular water supply. Although they had formerly got along without public water supply systems, more and more families felt it impossible to exist without them, and today a modern network of 17,500 systems supplies 112,000,000 homes and industries.

Sixty billion gallons of water daily is required for use by the nation's electric power producers. Industrial users require a like amount. Least demanding on our nation's water supply is the individual consumer, requiring only 17 billion gallons each day, or about 154 gallons per person. Rural areas utilize five and one-half billion gallons daily. This tremendous volume clearly shows the great growth in the service of our water systems, which only 70 years ago, supplied just 40.9 billion gallons each day.

Construction in the water works industry has kept pace with the increased volume required. Installation of new systems during the past quarter century totals 16,000 while 4,575 of these water systems have expanded their services. Construction budgets, which have generally quadrupled, set an all-time high in 1956 of about $272,908,000, a 50 per cent increase over 1955's budget. Chief reasons for this huge construction outlay are a modernizing and enlarging of water distribution systems by a number of major U. S. cities and by the increasing needs for extensions of water service to the rapidly expanding new suburban areas.

This rapid growth has required expenditures beyond anything visualized at the beginning of the century. Larger expenditures will be required in the future to provide an adequate water supply for the increasing industrial, commercial and domestic demands. To supply this need, the estimated replacement value of the public water supply facilities, which was nearly 22.8 billion at the end of 1954, must be increased an estimated $13 billion by 1975.



Is Our Water Supply Adequate?

In the next twenty years, population growth and industrial expansion indicate a probable 73 per cent increase in water usage.

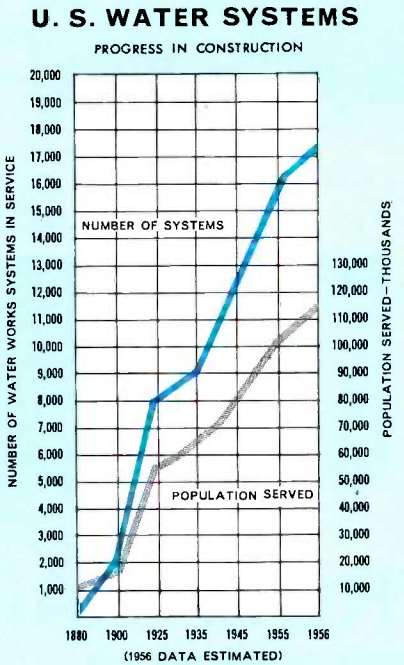
Daily usage, now at an all-time high of 154 gallons per person, or a total of 142 billion gallons, is expected to climb to a staggering 284 billion gallons by 1975. A population forecast of 206 million in 1975, plus an anticipated 50 per cent jump in industrial usage, are chiefly responsible for creating this increase.

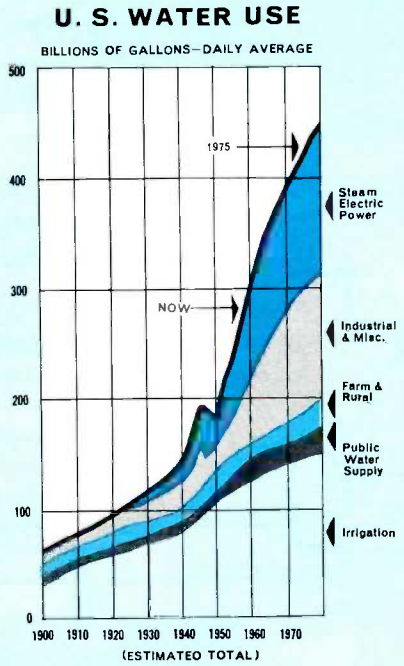
New and more extensive construction projects and greater budgets will continue the extensive expansion of the water industry to supply adequate water for future needs.

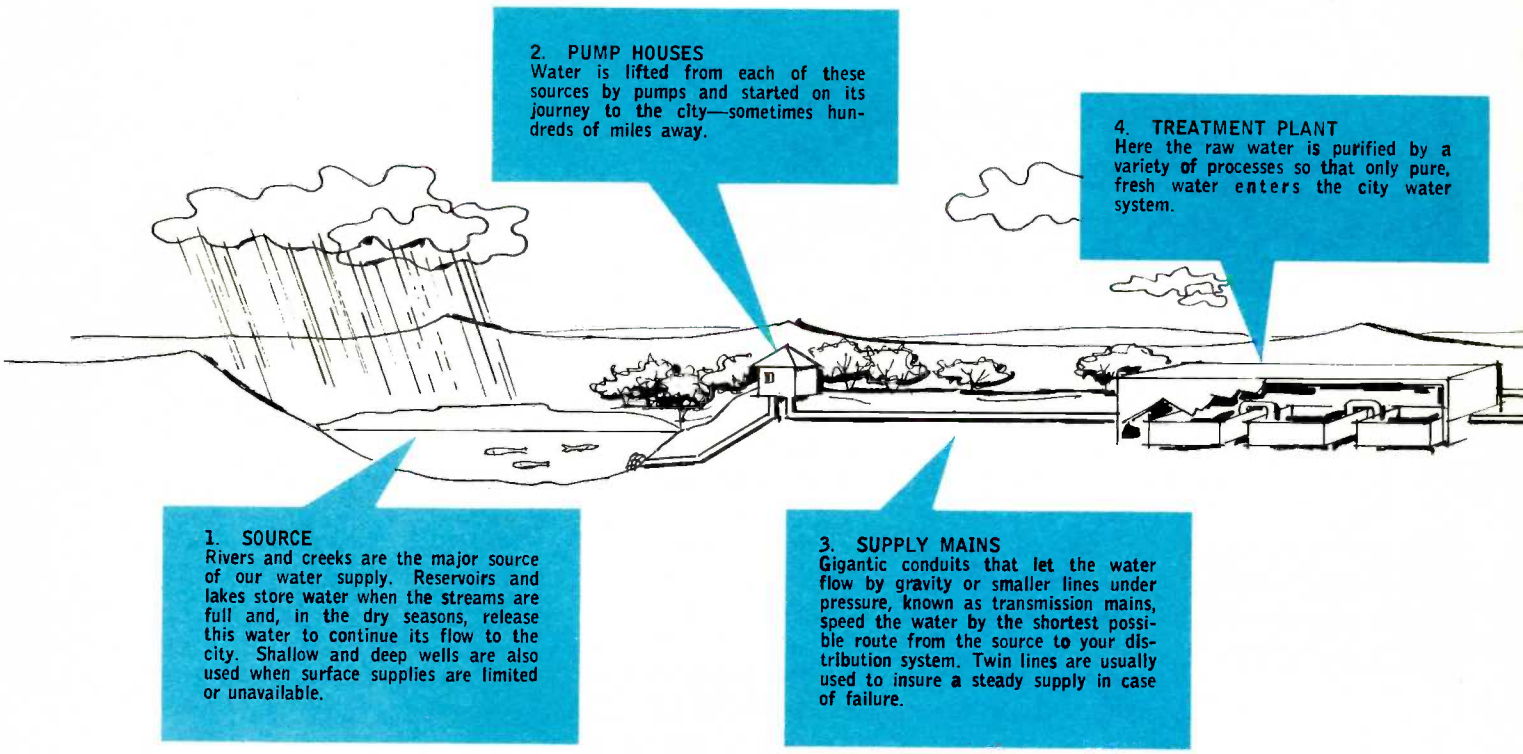
New sources of water and new techniques may give additional aid for providing the needed water requirements. Replenishing ground water resources by artificial means could store water underground, reducing loss through evaporation. Conversion of sea water to fresh water is another possibility, but, thus far, has not proved economical. Artificial induction of precipitation may help. President Eisenhower's Committee on Weather Control reported that it was feasible to increase rainfall by 9 to 17 per cent or more through cloud-seeding. An increase of efforts to clean up polluted streams would also help insure an expanded water supply.

The future progress and development of the Nation will necessitate careful planning and allocation of our water resources. Additional water from deep well sources will help increase the supply. Communities must plot their growth rate and plan their water supply and their water service needs accordingly. Meeting routine demands of today are not enough, a reserve for the future is necessary for community growth and meeting the constantly increasing per capita demand. Efficient water systems, with modern facilities, and utilizing proper service equipment, will deliver water with minimum loss.

America's outstanding water industry has helped make this country a healthier, cleaner, better nation in which to live and work. This tremendous progress and an unfailing supply of pure, fresh water is sufficient proof of its ability to meet the challenge of the future.





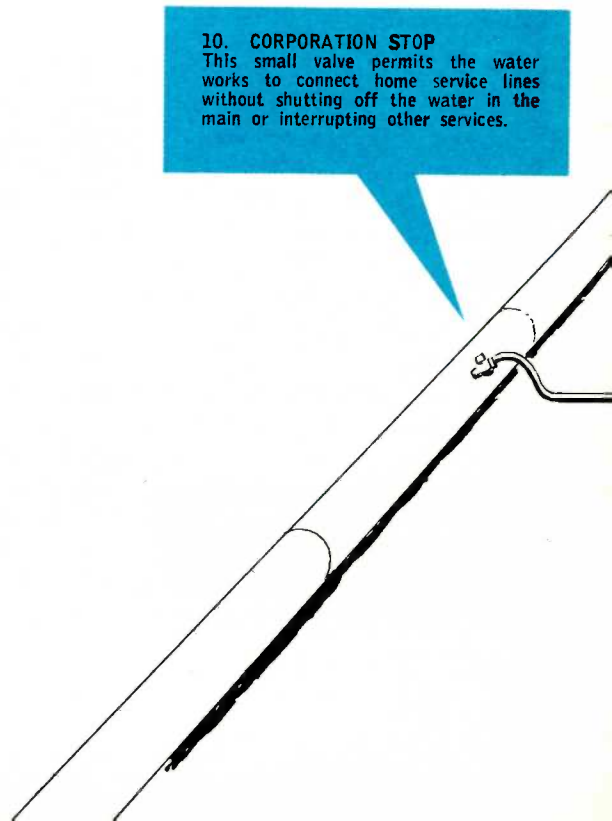


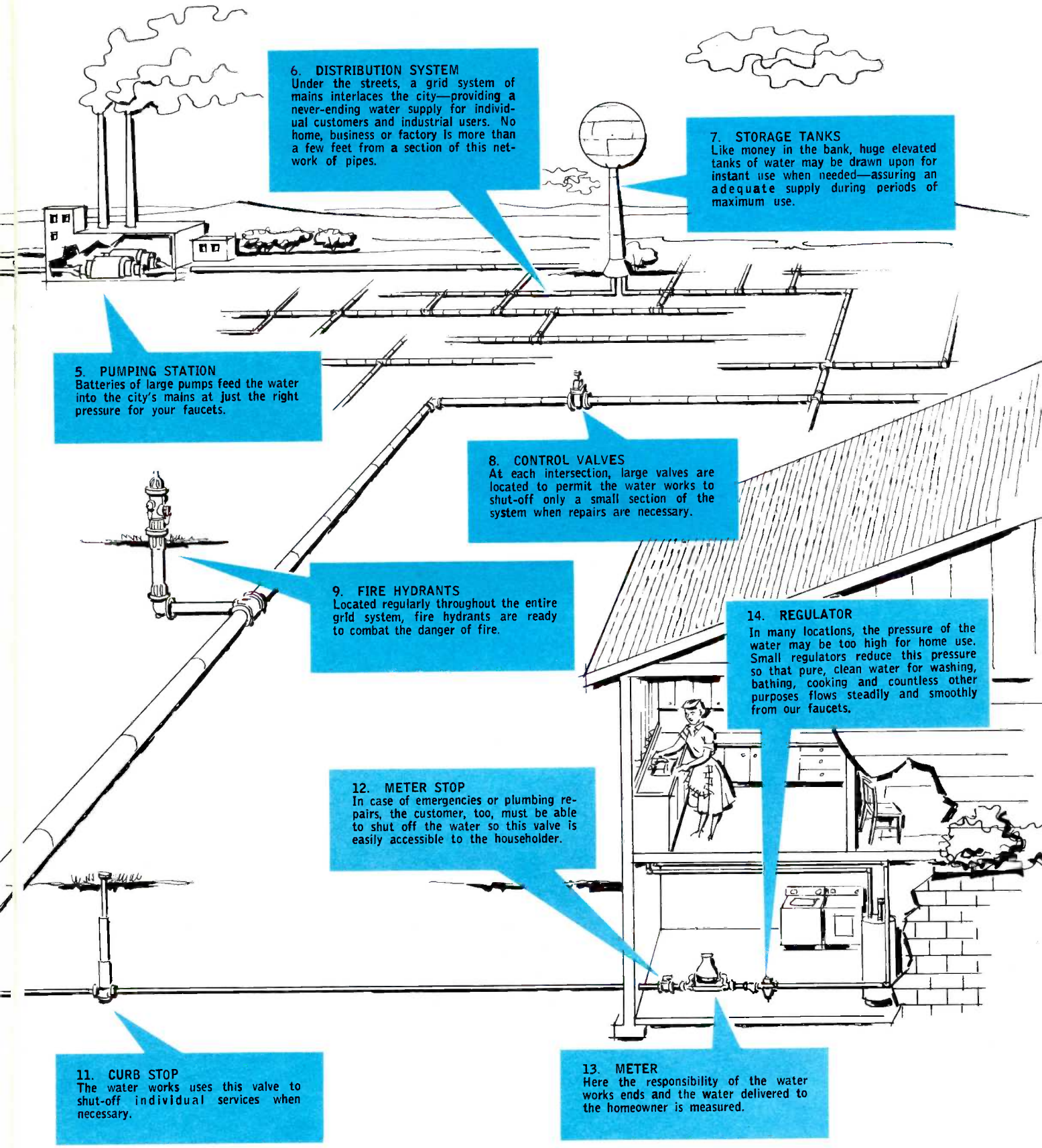
FROM RAIN TO FAUCET

How water — our most vital resource — is supplied

There is plenty of water for all the uses and needs of mankind. Unfortunately, it is not always at the location where it is needed most.

Here is the pictorial story of how a typical water works brings an adequate supply of pure, clean water direct to the faucets of our homes, businesses and factories.




6. DISTRIBUTION SYSTEM
Under the streets, a grid system of mains interlaces the city—providing a never-ending water supply for individual customers and industrial users. No home, business or factory is more than a few feet from a section of this network of pipes.
7. STORAGE TANKS
Like money in the bank, huge elevated tanks of water may be drawn upon for instant use when needed—assuring an adequate supply during periods of maximum use.
5. PUMPING STATION
Batteries of large pumps feed the water into the city's mains at just the right pressure for your faucets.
8. CONTROL VALVES
At each intersection, large valves are located to permit the water works to shut-off only a small section of the system when repairs are necessary.
9. FIRE HYDRANTS
Located regularly throughout the entire grid system, fire hydrants are ready to combat the danger of fire.
14. REGULATOR
In many locations, the pressure of the water may be too high for home use. Small regulators reduce this pressure so that pure, clean water for washing, bathing, cooking and countless other purposes flows steadily and smoothly from our faucets.
12. METER STOP
In case of emergencies or plumbing repairs, the customer, too, must be able to shut off the water so this valve is easily accessible to the householder.
11. CURB STOP
The water works uses this valve to shut-off individual services when necessary.
13. METER
Here the responsibility of the water works ends and the water delivered to the homeowner is measured.

FROM A DREAM TO

A REALITY

Natural gas fulfills a thousand and one uses in homes and industries throughout the United States

ONE hundred years ago, only 92 families were fortunate enough to prepare their meals on stoves fired by gas. Use of gas in home and industry was then only a dream of the future. Today, that dream has become a reality as 29 million customers in home and industry utilize 73.4 billion therms of gas each year for cooking, heating, cooling, heat-treating and countless other uses.

First recorded use of natural gas was by the Chinese, over 3,000 years ago. With the aid of bamboo poles, they brought gas to the earth's surface from wells 2,000 feet deep. Ancient Grecian worshippers believed that escaping vapors in the famous Temple of Delphi in Greece were the breath of Apollo voicing his wisdom through Pythia, a lady oracle, who sat in the midst of the fumes giving advice. Fire worshippers from Persia and India made pilgrimages to temples erected over natural gas deposits at Baku, during the early 600's A.D.

Natural gas was discovered in America as early as 1775 at "Burning Spring" in Kanawha County, West Virginia. This strange phenomenon was dedicated by George Washington that same year, as a national park. Today, that phenomenon has developed into the nation's sixth largest industry.

A British engineer and inventor, William Murdock, founded the gas industry in 1792 when he lighted his cottage with manufactured gas. By 1803, he had progressed enough to utilize manufactured gas to light an entire factory.

Lighting with manufactured gas was adopted in America in 1816 when gas lights were used in Rembrandt Peale's museum in Baltimore. This was so successful that the city contracted with Peale for the manufacture of gas to light the city's streets.

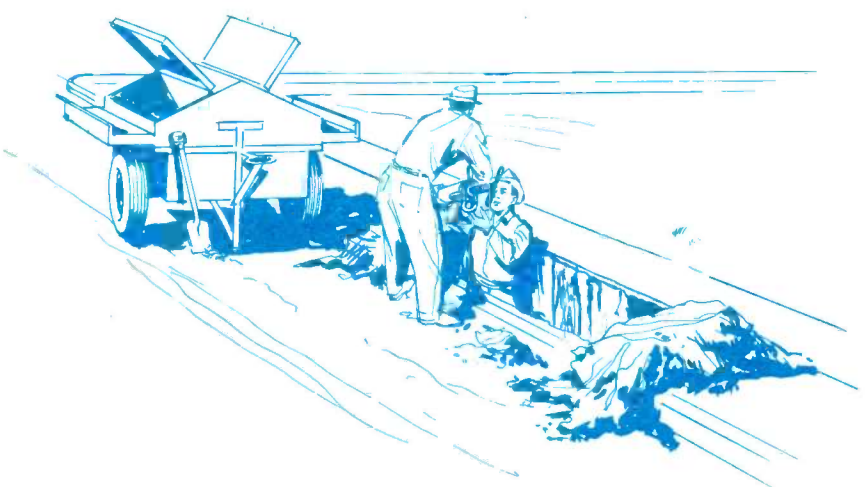
Natural gas was used for the first time at Fredonia, New York, in 1821, and, in 1858, the first natural gas company was organized in that city. The use of gas was a radical change from other methods of those days however, and a year later, there were less than a hundred families in the nation preparing meals on stoves that worked with gas.

Nor was acceptance of gas lighting rapid. It was not until the decade of 1864 to 1875 that the use of gas for home lighting and cooking began to make any noticeable progress. Demonstrations of gas cooking were conducted on ranges set up in vacant lots. People brought the food they wanted cooked to see for themselves how easily meals could be cooked with gas. One enterprising salesman loaded a gas range on a horse-drawn wagon and drove to a gas lamp on a busy street corner, ran a rubber hose from the lamp to the stove and then held his demonstration in view of all the people passing by.

Two important inventions in the gas field helped in the development of gas lighting. Bunsen invented his famous burner in 1855, and, twenty years later, lighting with candles in the larger cities was virtually a thing of the past. In 1885, Carl Von Welsbach invented the gas mantle which enabled gas to provide a whiter, brighter light.

Delivery of gas in sizeable quantities remained a major problem, with the use of natural gas still centered in a few major population areas throughout America. Hollowed logs were used after 1859, gradually giving way to iron, lead and concrete pipe.

By 1920, the use of gas had been firmly established. Then the technique of welding together lengths of steel pipe, capable of withstanding transmission of gas under pressure, was perfected making bulk transmission of gas possible. After World War II ended, a tremendous expansion program got underway. Once construction began, this expansion followed so rapidly that by 1956, with the completion of the $400 million pipeline to the Pacific Northwest, all sections



of the nation were being served with natural gas. Today, half a million miles of steel pipe, capable of encircling the globe approximately twenty times, carry gas underground, unseen and unheard, to customers in every part of the nation.

Some of the largest pipe lines supplying gas in the United States today are a 36-inch pipe servicing New York, a 30-inch and a 34-inch pipe transporting gas from Texas to California and a 24-inch line supplying New Jersey.

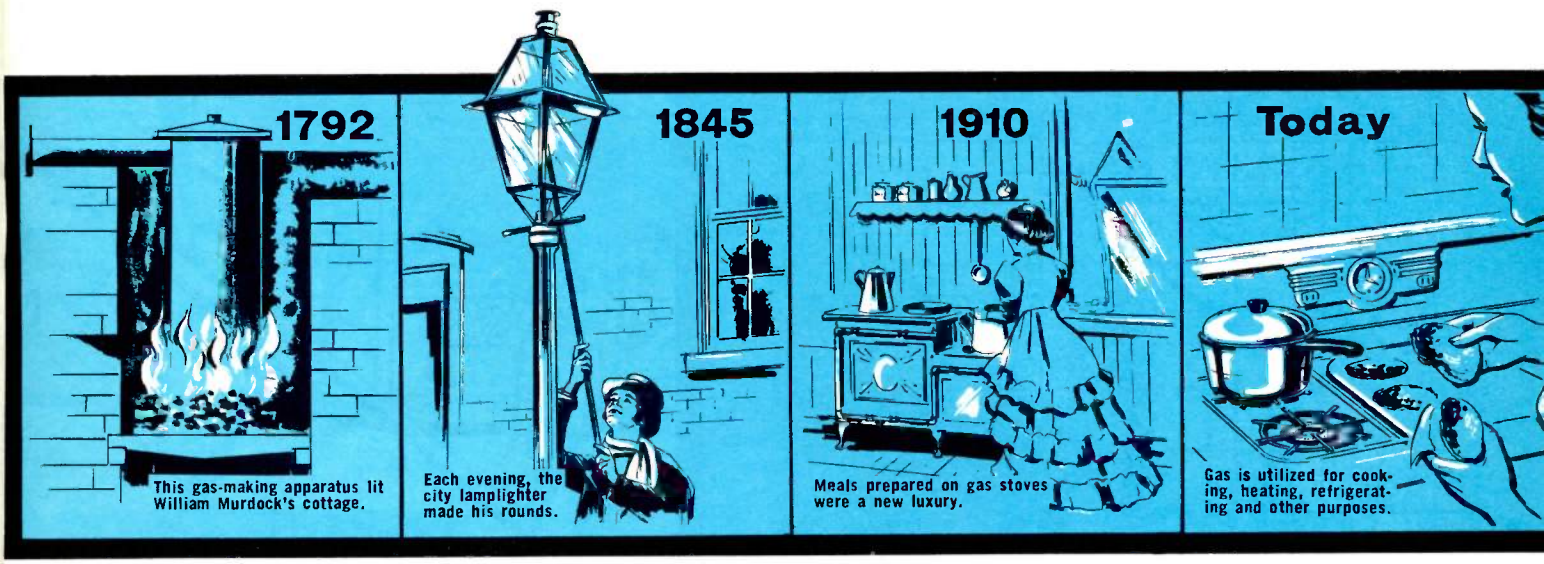
Our present-day natural gas supply comes from 29 states, with Texas producing over half the volume. The gas industry today supplies approximately 73.4 billion therms of natural and mixed gas to 29 million customers, a staggering increase of 600 per cent over 1932, when the total gas output measured 10.5 billion therms.

For each of the 4,000 new customers the gas companies add to their service each day, a new service line, meter and additional fittings must be installed. Industrial customers require even more elaborate facilities for their service. To provide these facilities for the multiplying suburban areas and other expanding areas, gas companies are kept busy installing thousands of miles of new main lines, lateral lines and the required service fittings. Existing systems must also be expanded and added to in order to provide the increased volumes and necessary pressures. Exacting control must be maintained of the continuous flow of gas which leaves the wellhead under pressure as high as 2,000 pounds per square inch, yet flows from the stove burner a thousand miles away at a pressure of only four ounces per square inch.

The gas supply is plentiful. From all indications, new customers may be added and volume of service for each customer increased. In 1956, revision of existing gas services and installation of new services reached a peak cost of $399,315,000, with total construction expenditures topping 1.3 billion dollars.

Maintenance and repair are also considered an important function by gas companies which allocate 187 million dollars each year to eliminate interruption of service and customer inconvenience which may cost $6,000 per hour for down-time on any part of the system.

Construction of the vast and growing network of transmission lines, distribution mains and additional facilities has required an investment of about 14.8 billion dollars, or $500 per person. This has been done for the most part in the past 25 years, and today the natural gas industry supplies over one-fourth of all the energy produced in the United States.



Future bright for the gas industry

Over one million new customers each year make the future look bright for the gas industry.

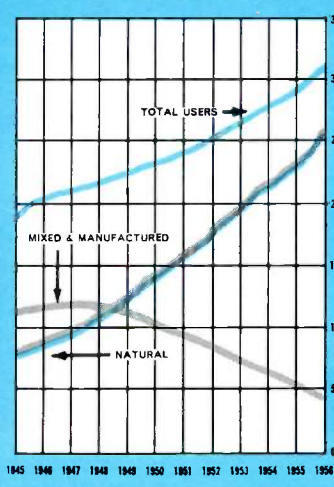
According to the Federal Government's Material Policy Commission, natural gas usage could triple by 1975. Industry has increased its usage of gas 154 per cent since 1946 and will probably utilize much more gas in the future.

Domestic usage is expected to increase as much as 147 per cent over 1946, with increasing installation of water heaters, furnaces and other equipment.

Reserve resources total 223.7 trillion cubic feet of gas, enough for 23 years of consumption at the expected rate of eight trillion cubic feet next year. However, anticipated increase in usage places the present gas reserves, which are being regularly replenished, as being sufficient for 10 to 15 years.

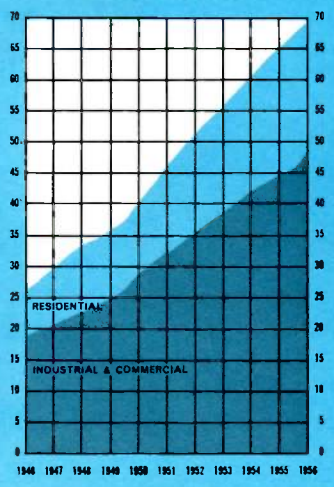
Life in America has been made easier, healthier, more convenient and more enjoyable by the tremendous advancement of the gas industry. The development and expansion that gas companies have already undergone to meet the needs of the rapidly growing market clearly demonstrate their ability to handle any problems of the future.

U.S. GAS CUSTOMERS
In Thousands



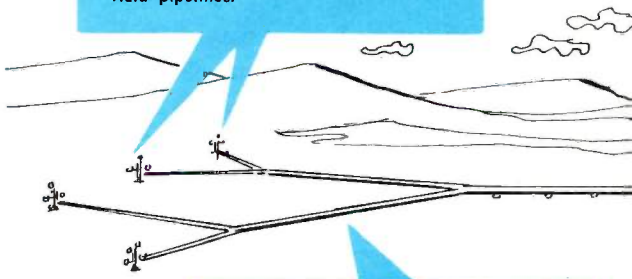
(1956 DATA ESTIMATED)

U.S. GAS SALES
In Billions of Therms



(1955 & 1956 DATA ESTIMATED)

1. WELL
The long journey begins at the "Christmas tree"—an assembly of valves and fittings found at the head of each well. Its purpose is to control the well's production and to provide connections for field pipelines.

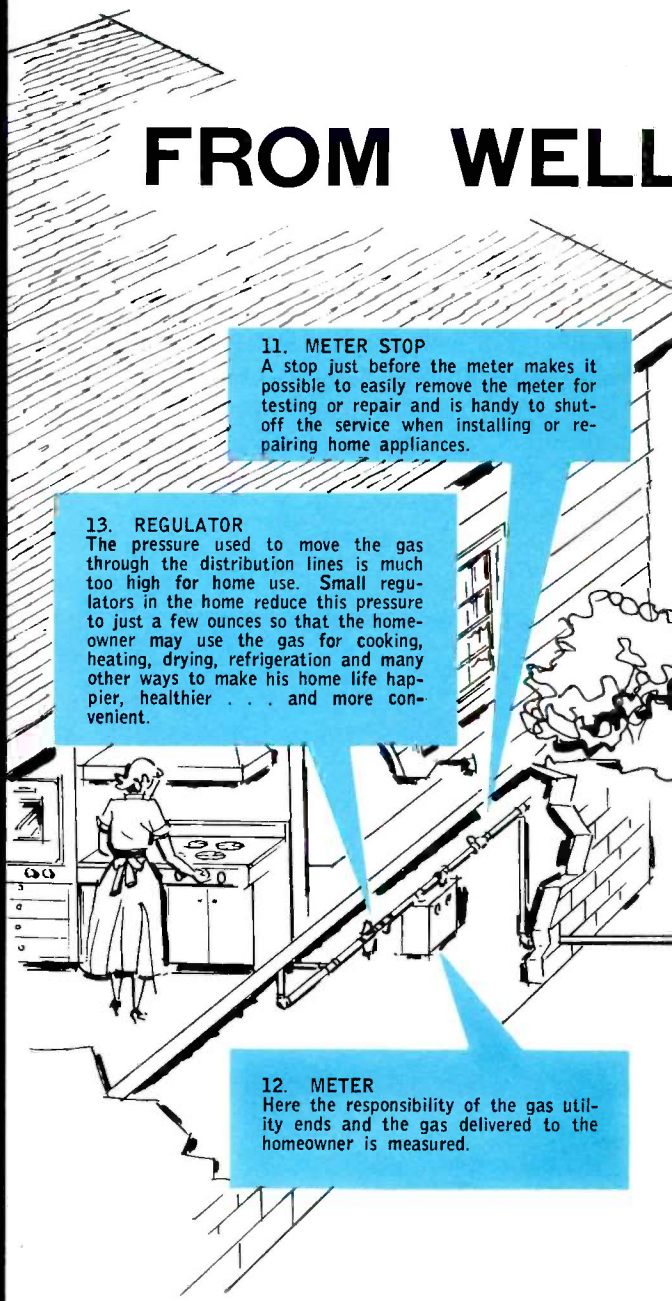


2. FIELD GATHERING LINES
Gas from the many wells in a field must be gathered together to give an adequate supply.

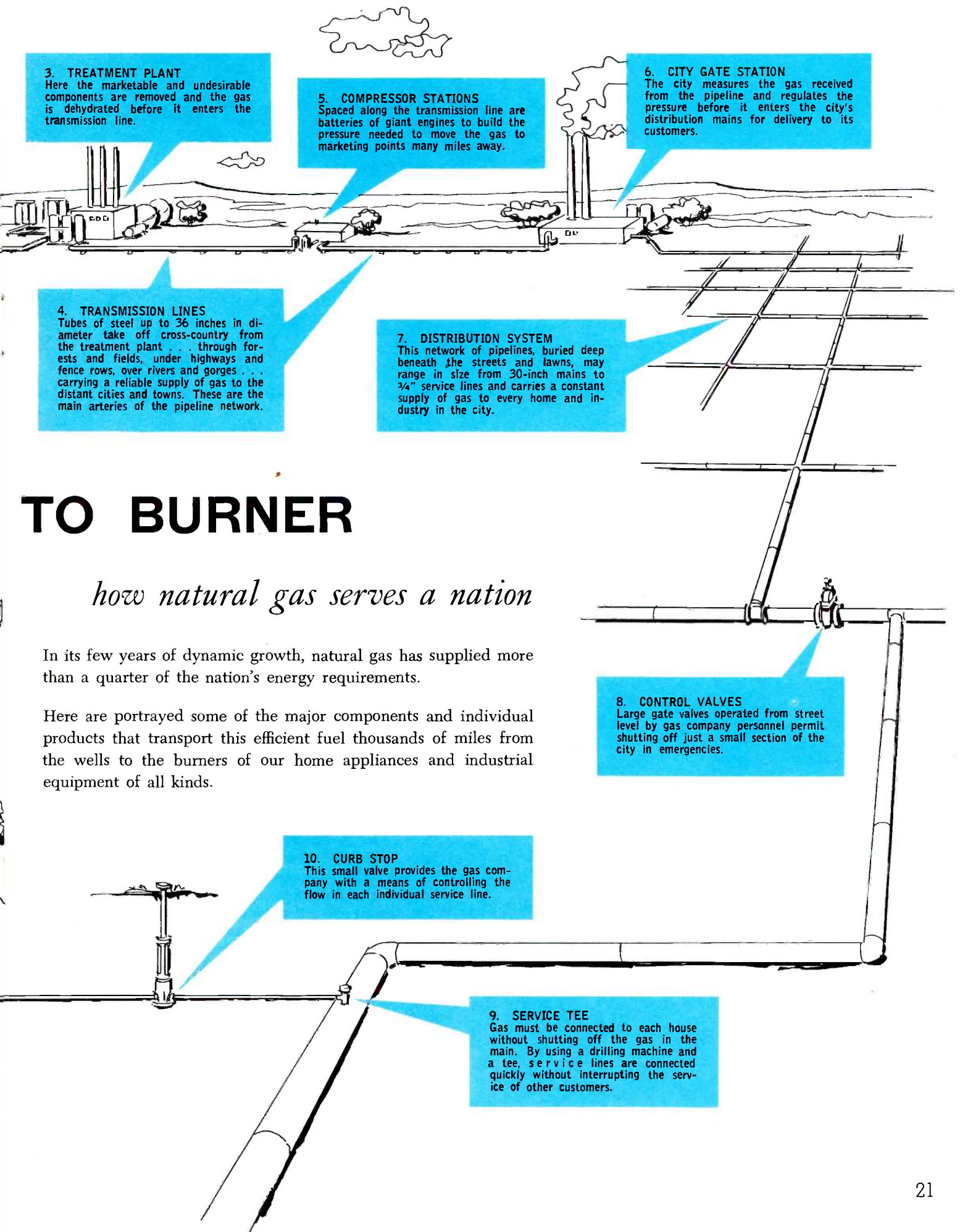
FROM WELL

11. METER STOP
A stop just before the meter makes it possible to easily remove the meter for testing or repair and is handy to shut-off the service when installing or repairing home appliances.

13. REGULATOR
The pressure used to move the gas through the distribution lines is much too high for home use. Small regulators in the home reduce this pressure to just a few ounces so that the homeowner may use the gas for cooking, heating, drying, refrigeration and many other ways to make his home life happier, healthier . . . and more convenient.



12. METER
Here the responsibility of the gas utility ends and the gas delivered to the homeowner is measured.

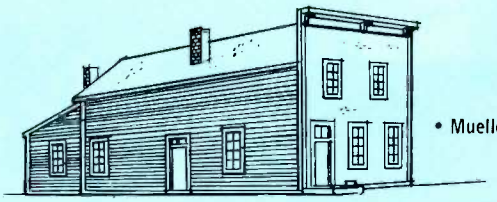


TO BURNER

how natural gas serves a nation

In its few years of dynamic growth, natural gas has supplied more than a quarter of the nation's energy requirements.

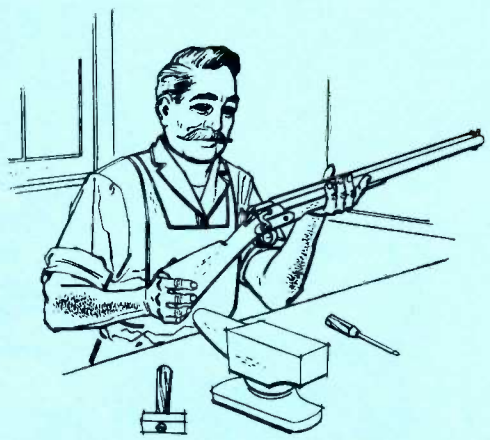
Here are portrayed some of the major components and individual products that transport this efficient fuel thousands of miles from the wells to the burners of our home appliances and industrial equipment of all kinds.



• Mueller's original gun shop

• The "Old Crow"

SINCE 1857...



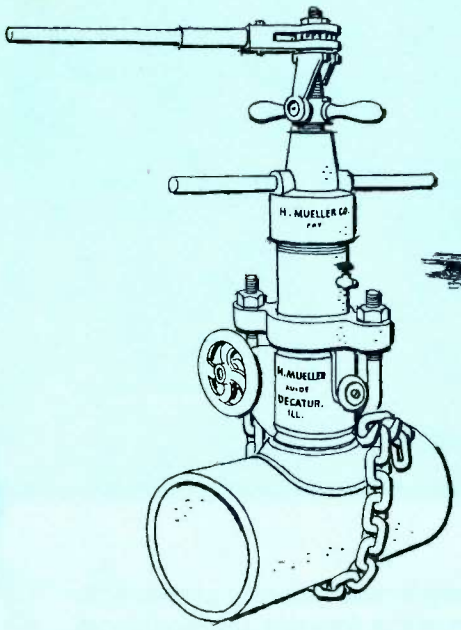
THE efficient services rendered to our typical American family by modern water and gas utilities had their beginning back in 1857, when Hieronymus Mueller, a young immigrant and gunsmith, laid the foundation for the Mueller Co. in a 20 foot by 40 foot building in Decatur, Illinois.

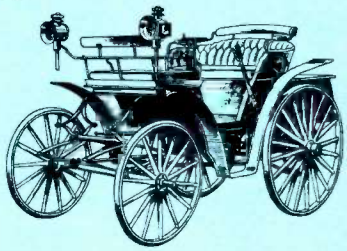
Mueller, born in Wertheim, Germany, in 1832, had been trained as a machinist under the direction of some of the finest German artisans of that day. He came to America in 1849, a year of great internal disturbances in Germany, after being an outspoken sympathizer in the movement against the militaristic government. In America, he found the opportunity for growth and an outpouring of his inventive genius.

Thus, in 1857, the roots of Mueller Co. were planted in the small shop which repaired and built guns, locks, sewing machines, even clocks. Any item of mechanical nature captured his attention and interest. The shop grew and prospered, largely due to Mueller's insistence upon perfection in all he did.

The development of Decatur produced a need for an improved water supply and the budding city's fathers laid plans for expansion of the Decatur water works in 1871, the year Hieronymus Mueller was appointed city plumber.

In those early days, the comfort and convenience of running water in the home was possible only after a troublesome service connection was made to the main. Using a "crow and ratchet", the plumber drilled a hole almost through the main and inserted a corporation "drive" stop. The stop was secured in the main by a blow of a sledge. If the blow was true, the con-





• Mueller-Benz motor wagon

nection was made; if it erred, the plumber was drenched, the ditch was flooded and the service to all customers was interrupted while the connection was repaired.

Mueller worked long and hard to devise a more efficient method. After weeks of experimenting, he invented the first tapping machine, permitting plumbers to drill through the main, tap the hole and insert a corporation stop without reducing pressure or interrupting service. Improvements have been made to this original machine, but nothing has changed its basic principle. A vital need of an expanding industry had been answered—the first of many answers for gas and water problems through a century of progress.

The new tapping machine was added to a line of water, plumbing and brass goods designed for the rapidly expanding water works field, and soon, a larger building became necessary. The business moved to a new three-story factory building.

Mueller's inventive mind devised a new water pressure regulator which changed methods of the day. Mueller then turned his attention to brass service fittings, which had always been manufactured with little or no regard to accurate machining or quality materials. Hieronymus decided that, though these products were buried out of sight in the ground, they should be produced with precision in casting and machining and should be of quality materials to insure long and dependable service. Quality fittings were added to Mueller's expanding line.

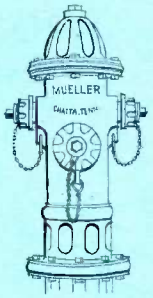
Henry, Philip, Fred, and Robert, sons of Mueller who had been active in the business, were admitted to a partnership and the company became known as H. Mueller and Sons. Adolph Mueller, another son, joined the firm four years later. The company was incorporated as H. Mueller Mfg. Co. in 1893.

The sixteen men who had been working long hours to turn out an annual volume of $25,000 worth of water and gas line products proved inadequate and, in 1895, a new factory was built on the site of present Mueller manufacturing facilities.

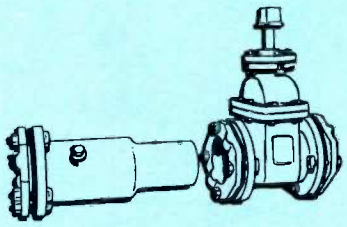
About this time, the new horseless carriage captured the attention of Hieronymus Mueller, who imported a Benz motor wagon from Germany. Mueller rebuilt the machine and, in the first auto road race in America, won first prize. This race was labeled the consolation race by its sponsors and, in a second and main race on November 28, 1895, Mueller's car took second place. Mueller, and his sons, invented several innovations for the automobile and patents were issued to them for variable speed transmission, friction disc clutch, spark plugs and other inventions, the principles of which are still in use today.

To concentrate interests in water works goods and the automobile, the plumbing, heating and gun stores were sold in 1897. Another son, Oscar, became a part of his father's business.

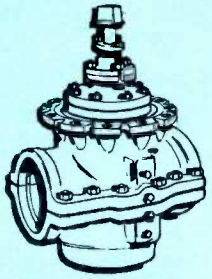
The automobile cut short Hieronymus Mueller's great inventive talent. In March, 1900, an accidental explosion of gasoline caused burns which resulted in his death. But the company had been richly endowed with skills, integrity, determination and a high standard of quality by its founder, who also passed a



• Mueller AWWA Improved Fire Hydrant



• Cut-In Sleeve and Valve



• Inserting Valve

deep-founded knowledge of the business to his sons. The leadership of Hieronymus, his sons and their sons assured the company's leadership in whatever fields it entered.

The advance of the company after 1900 was rapid. New additions to the existing facilities were made steadily. In 1905, an eastern division was established in New York City. The Sarnia, Ontario plant was built in 1912, and a Mueller Canadian company was organized.

World War I staggered the world shortly thereafter and the Mueller factories were converted to the manufacture of munitions for the Allies. Outstanding production was achieved in this unusual field of endeavor.

With the advent of peace, the company's progress resumed its earlier pace. Sales branches were added at Los Angeles and San Francisco in 1923 and, a year later, the company name was changed to Mueller Co. A second Decatur plant was added the same year.

Ten years later, the need for a new west coast plant became apparent. To serve the rapidly growing West and to reduce the freight costs of products shipped to that area, a factory was built in Los Angeles and production, of the same products as those turned out by the Decatur plant, was underway before the end of 1933.

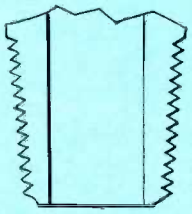
While the Los Angeles plant was under construction, negotiations for the purchase of the Columbian Iron Works in Chattanooga were completed. The purchase added fire hydrants, gate valves, sluice gates and other water and sewage control equipment to the Mueller line. The Chattanooga factory was completely modernized and full scale production was underway by 1934. The southern plant operated as Columbian Iron Works, until 1950 when it became an integral part of Mueller Co.

Two of the founder's sons actively directed the growth and activities of the company during this era: Adolph, who had been elected President of the company in 1902, and Robert, who served as Vice President and Secretary. Five grandsons also followed the path of the founder: William, who became Executive Vice President and then President; Lucien, who became Vice President and later Chairman of the Board; Robert, who was Chief Engineer and a member of the board; Frank, who is now serving as Engineering Vice President; and Ebert, who is with the Canadian division.

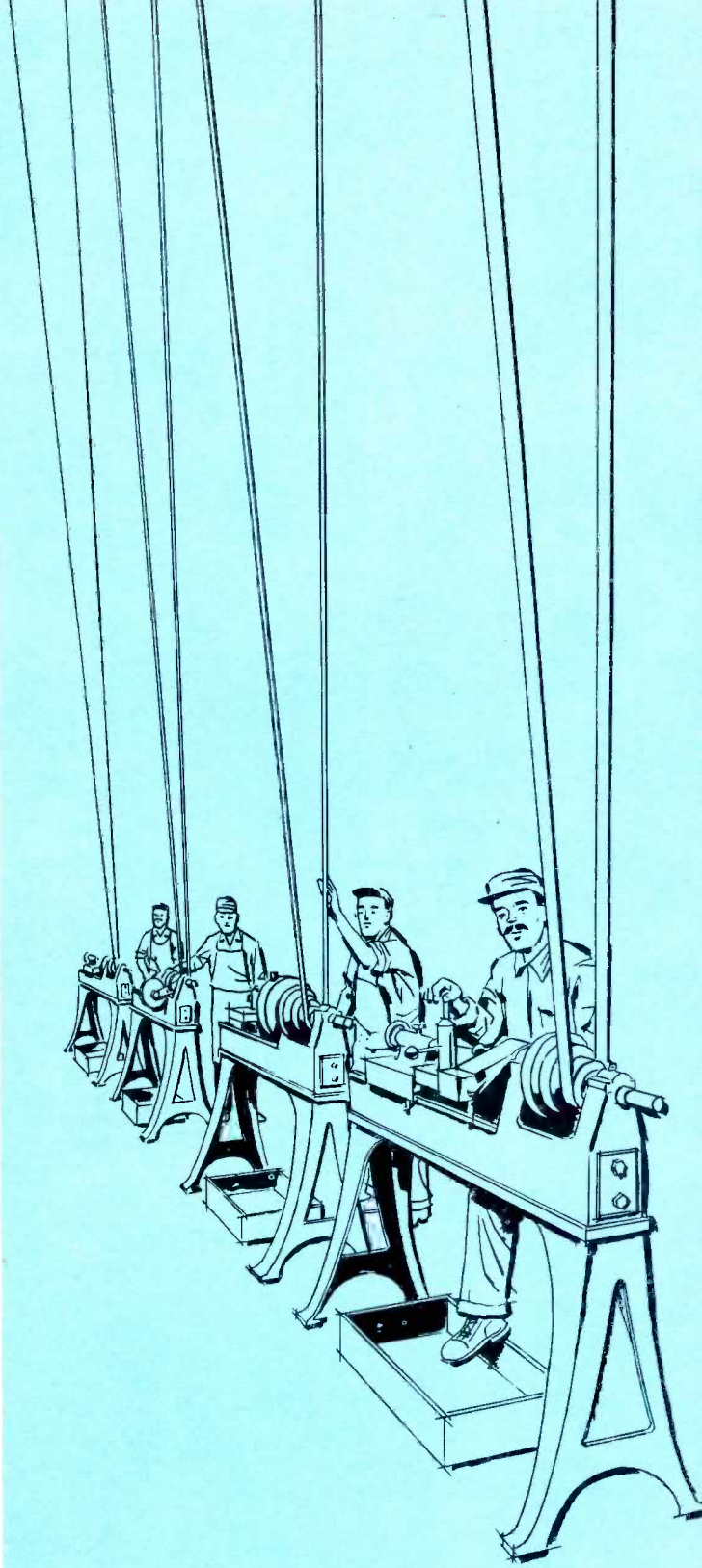
Another man who helped guide the company during its first century was J. W. Simpson. He joined Mueller in 1899, working with Hieronymus Mueller on his automobile and other inventions. Simpson later became Executive Vice President.

Products were added and improved during the years preceding World War II and the company grew in personnel and sales volume. Major innovations were in the field of gas distribution equipment. Products which permitted the installation of new services and control devices while the gas line is under pressure were developed. This "No-Blo" line proved of vast importance as the gas industry experienced the beginning of a new growth. World War II brought a temporary halt to Mueller progress. The company's manufacturing facilities were quickly converted to the production of war goods. Shells, aircraft fittings, and Naval Valves were produced, as well as standard Mueller products for military installations. Government awards were earned and posted proudly. For five years, the manufacturing skill and facilities of Mueller Co. served the nation unselfishly and, when peace returned in 1945, the company embarked on a major reconversion project to return production to standard products.

• C-1 Drilling Machine



• Mueller Thread



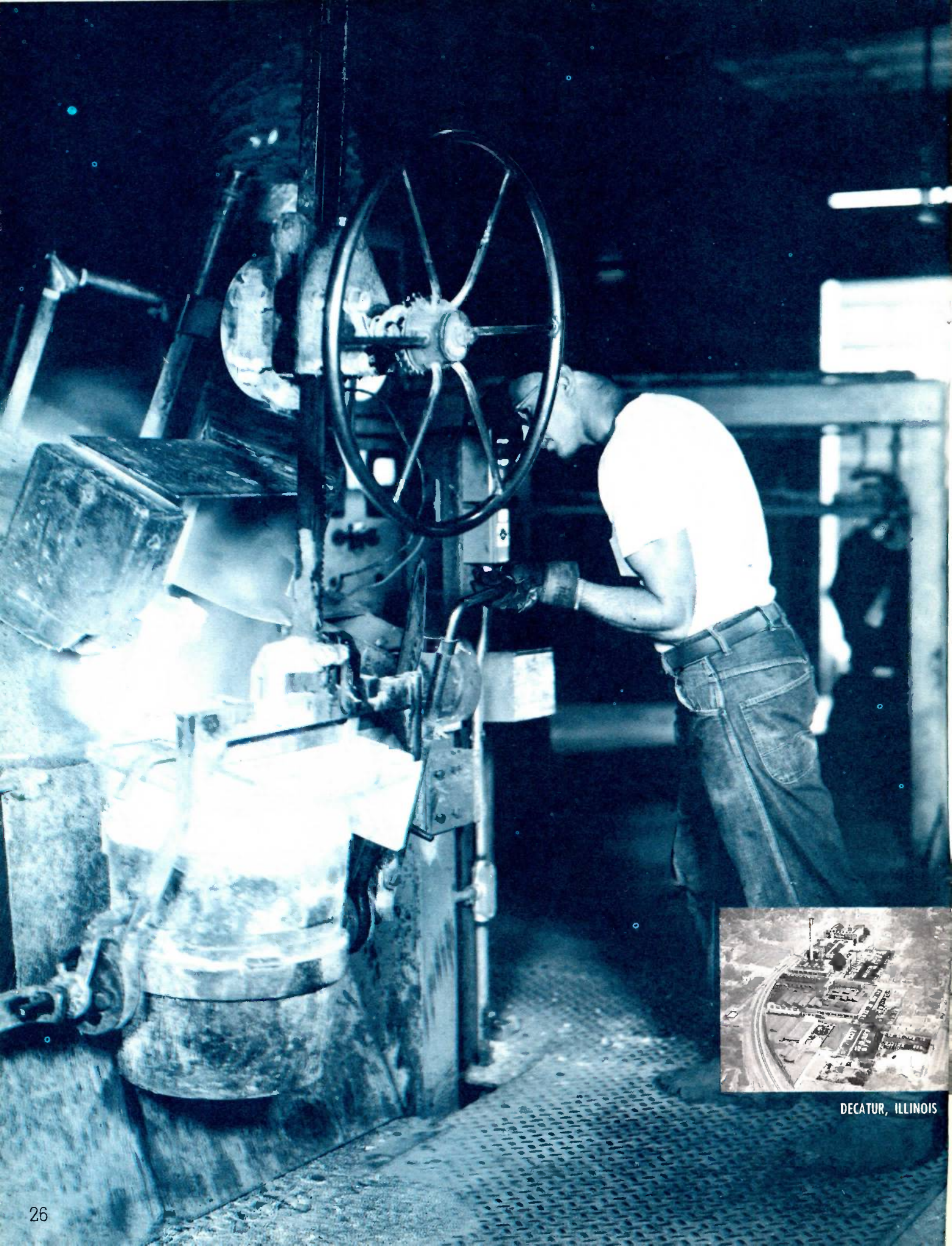
The company's constant program of research and improvement has resulted in many new and improved products during the last quarter century, but particularly during the years since the last World War.

The fire hydrant was greatly improved; the inserting valve was developed; cut-in sleeves and valves were introduced; new pressure regulators were added; larger, higher pressure drilling machines were produced; the Lub-O-Seal stop was devised; and the "No-Blo" line of gas fittings was expanded.

In 1948, Mueller Corporation Stop Threads were adopted by the American Water Works Association as their standard "Threads for Underground Service Line Fittings".

The expanded and improved product line furnished new fuel for new growth. Plant No. 4 was added in Decatur and facilities were remodeled for more efficient production. Offices were refurnished and enlarged to provide room for the enlarged staff necessary to meet increased customer needs. Room for future expansion was secured.

Even Hieronymus Mueller, if he were to return today, would be amazed at the vast organization which has been built on the foundation he laid over a century ago. The rigid standards of quality and perfection, the unwavering determination to lead in every field of endeavor, the skill in manufacturing he established so many years ago and passed on to his sons and grandsons are still the basic principles of Mueller Co. today. These principles, plus efficient management during the years, have enabled Mueller Co. to reach a goal which few companies are able to reach—one hundred years of age. But more, they are the principles upon which the second century of service will be built!



DECATUR, ILLINOIS

MUELLER SERVES THE GAS AND WATER INDUSTRIES

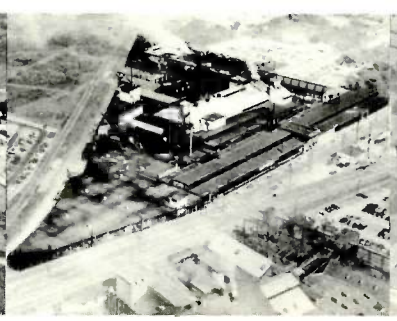
producing superior products . . .

QUALITY, above all things, is the guide for Mueller manufacturing operations and the standard by which all Mueller products are made.

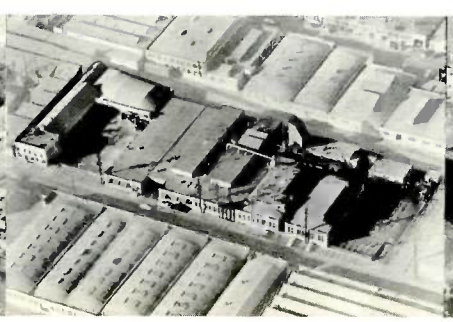
In workmanship, in materials and in design, highest quality is combined to form a superior product that will serve dependably throughout the years.

Mueller Co., with two plants in Decatur, Illinois; a plant in Chattanooga, Tennessee; a plant in Los Angeles, California; and a plant in Sarnia, Ontario, Canada, was founded on the tradition of "Quality and Dependability"—a tradition that has been rigidly maintained through a century of service to the gas and water industries.

DECATUR, ILLINOIS

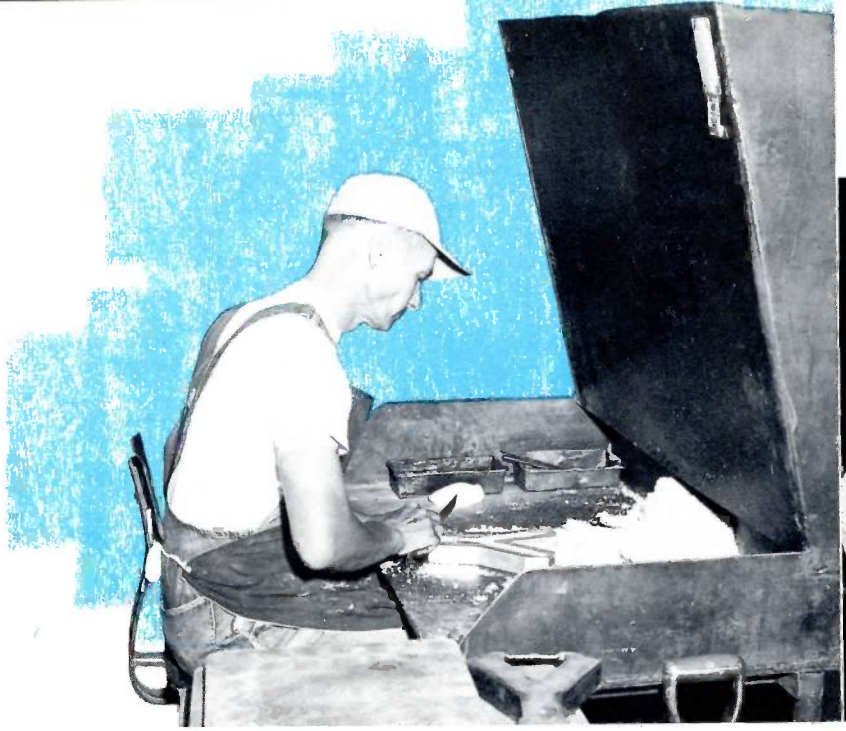


CHATTANOOGA, TENNESSEE

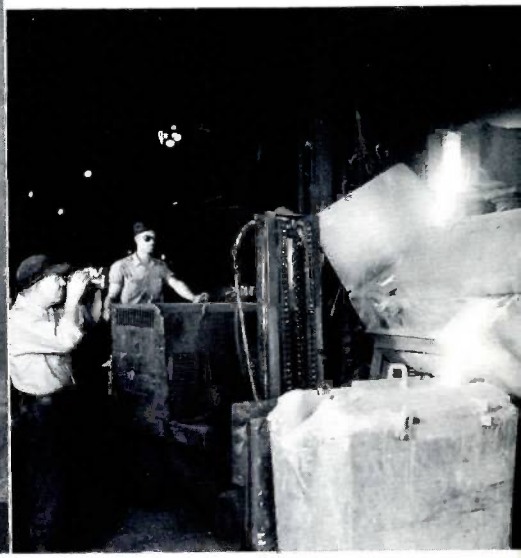


LOS ANGELES, CALIFORNIA

SARNIA, ONTARIO, CANADA



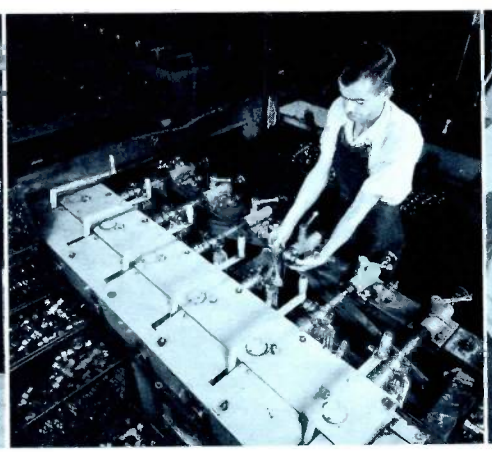
Skilled hands of expert coremen utilize long experience, craftsmanship and unerring skill in shaping cores to exacting detail, even to the grain of sand.



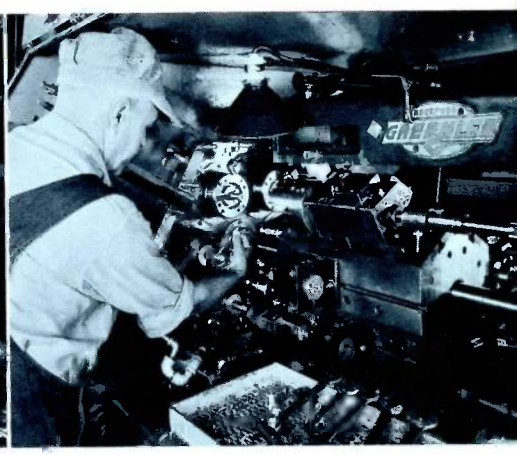
Foundrymen take constant temperature checks to assure that molten metal, which can be correctly maintained within a plus or minus of 10 degrees Fahrenheit, remains at the exact heat and proper consistency.

Trained workmen utilizing lengthy experience, fine craftsmanship and expert skills . . . exacting control of quality, materials and modern manufacturing methods —this is the tradition of Mueller quality in the making. Precision machines cutting gleaming metal to microscopic tolerances . . . turning conveyor lines carefully carrying partially completed products to assembly points . . . busy men adjusting instruments, reading gauges and skillfully performing their work. Within this vast array, every movement has a purpose . . . each man is thoroughly trained and takes great pride in his work. Each part is carefully tested to insure a product of the finest quality and workmanship possible to give long, safe and trouble-free service.

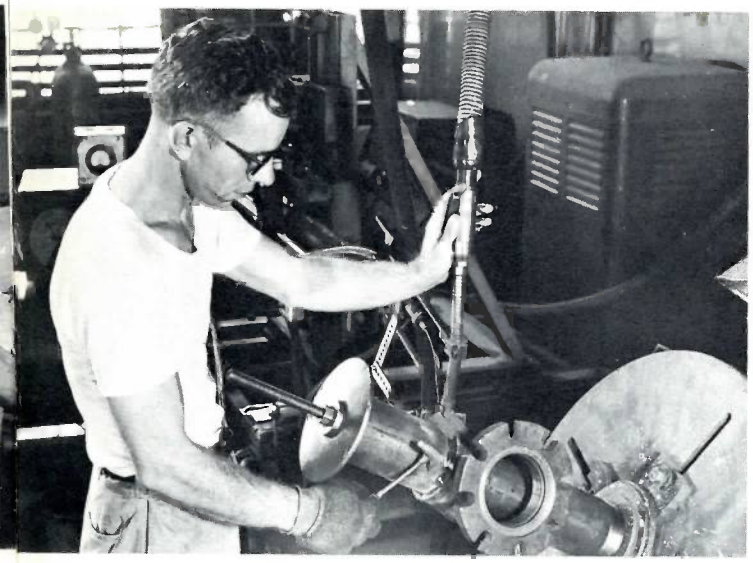
Extensive test cuts of the combined drill and tap assure a product that will give dependable performance in the field.



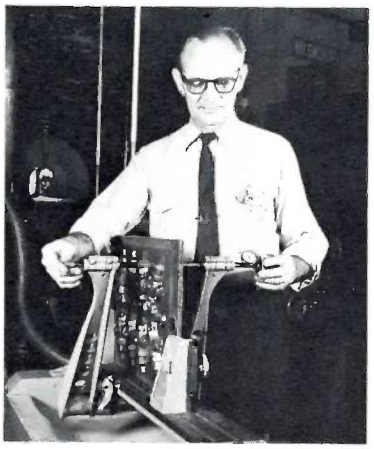
Operation of this ground key lapping machine requires master craftsmanship and nimble fingers in producing Mueller stops that are accurate to .001 of an inch.



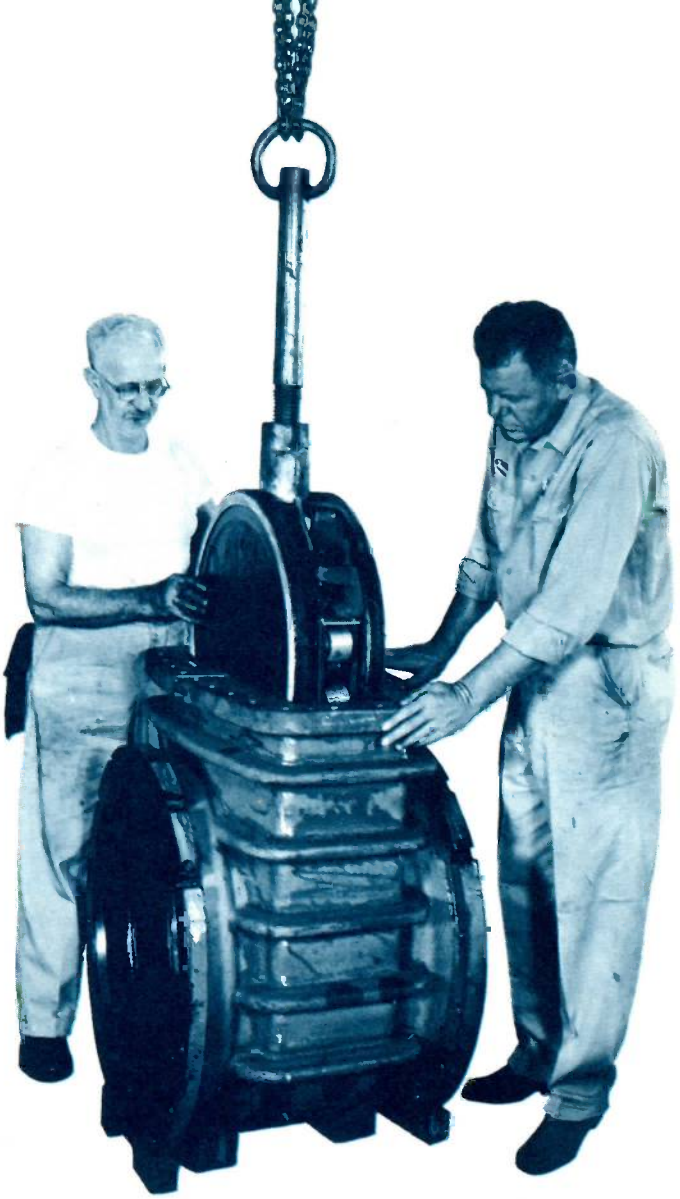
Guided by never-ending patience and great pride in his work, this machinist manufactures thousands of small parts used in Mueller products.



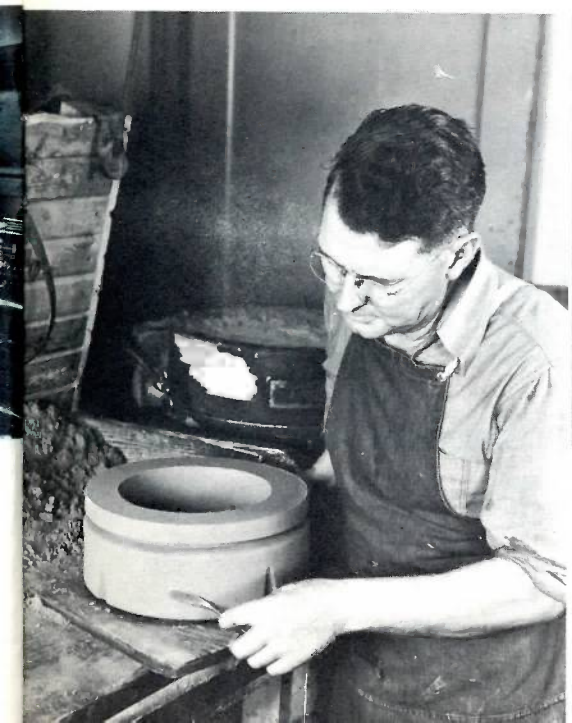
The utmost importance is placed on the use of modern tools in fabricating an extension stopper fitting which must be accurate for long-lived ease of operation.

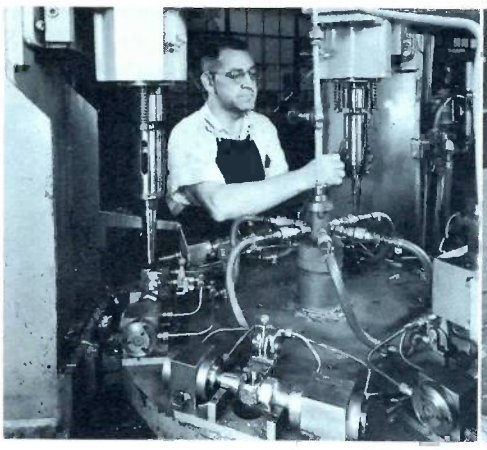


Testing the alignment of plates used for making brass and iron castings. Accuracy to .001 of an inch is maintained for flawless molds.



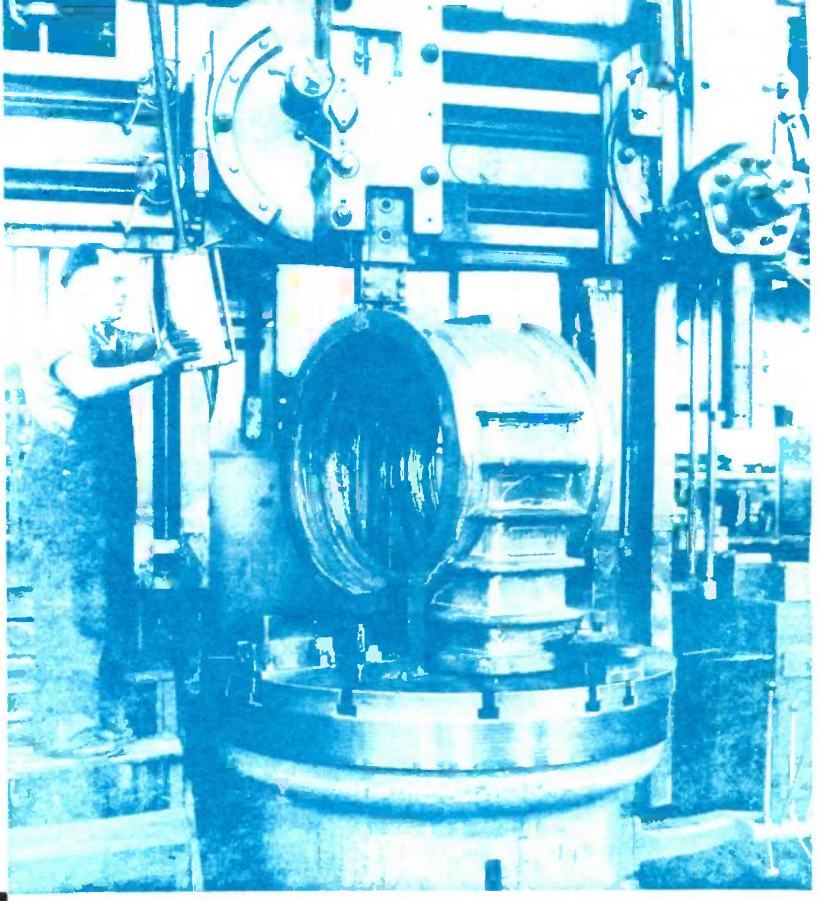
Working with great care, an experienced assemblyman expertly inserts a disc assembly into a 24" mechanical joint valve body.



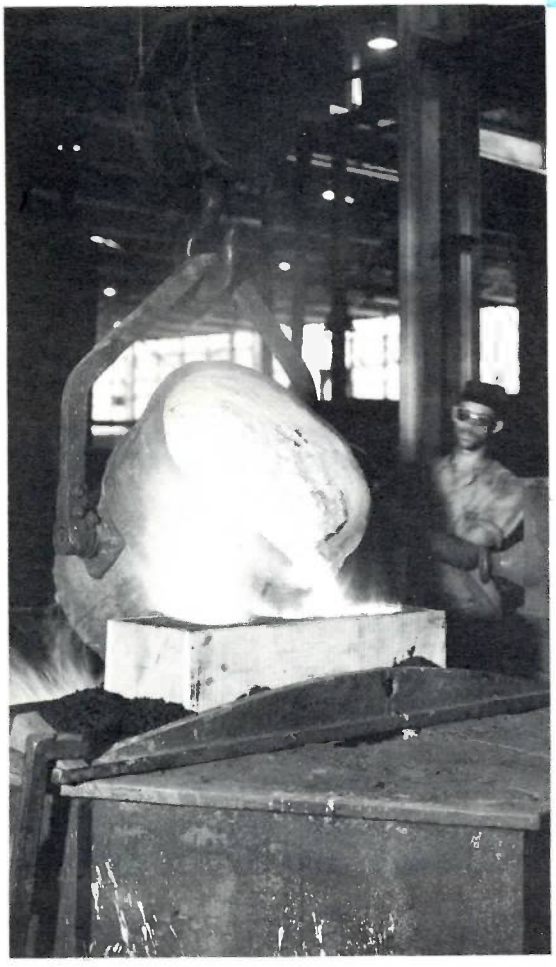


Three operations in one are performed on corporation stops in the machine shop. Critical inspections insure accuracy and perfection in each operation.

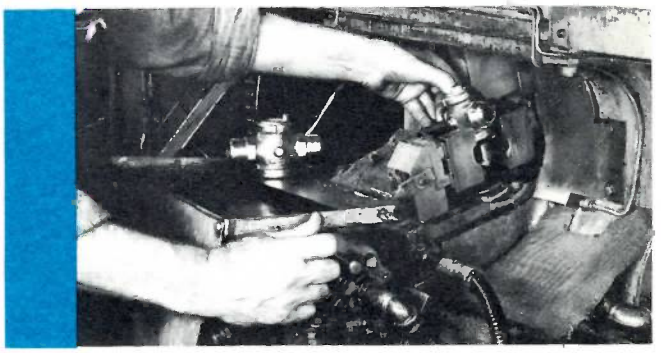
A steady hand and a "fire-proof" thumb are the necessary tools of this skilled workman as he "wipes" a lead gooseneck joint to mirror-smooth perfection.



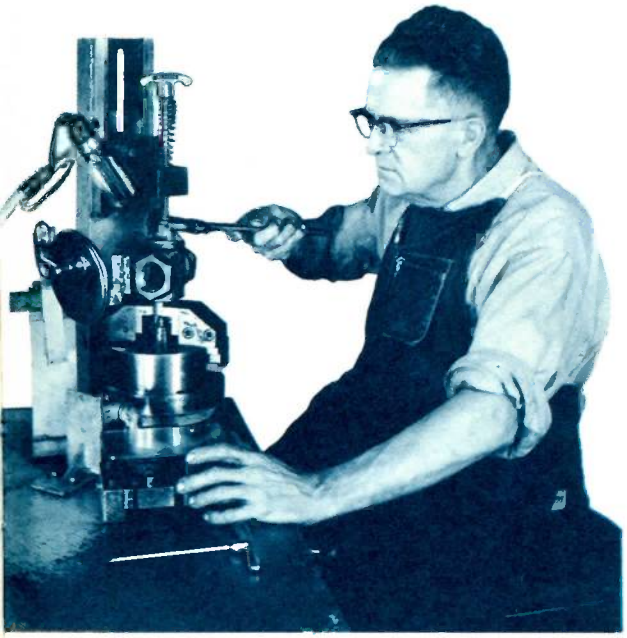
Precision machinery produces precision products as this huge vertical boring mill faces the bottom by-pass of a 30" gate valve hub end body.



Many years of experience, careful training and modern machine tools are utilized by skilled Mueller craftsmen in manufacturing water and gas products that provide superior performance . . . and their work is proved by many rigid and thorough inspections and tests.

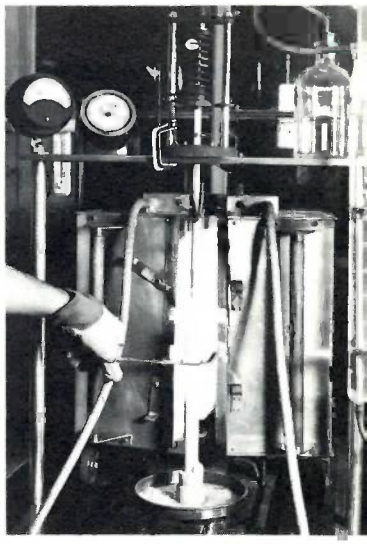


Both ends of a curb stop are simultaneously cut and threaded by this semi-automatic machine to prevent distortion and damage.



An assemblyman utilizes a torque gauge to adjust the lock nut of a Lub-O-Seal meter stop to the exact tightness.

Incoming raw materials are analyzed each day by laboratory testing to insure rigid adherence to industry standards.



Technicians carefully check molding sands for compressive strength, permeability, moisture content and density to assure perfect castings.

IN THE FOUNDRIES

Sands are graded, tempered, and treated to assure perfect molds from patterns and core boxes fashioned by skilled artisans in the pattern shop of Mueller Co.

Rich, creamy, carefully-analyzed molten-metal is fed through six modern iron and brass foundries to hungry molds where it becomes castings for curb or corporation stop bodies, curb boxes and other Mueller products. Each casting is carefully inspected before it moves on to the modern machine shops.

IN THE MACHINE SHOPS

Expert machinists cut, turn, bore, grind, thread and work new castings into precision parts. Perfect mating of component parts and continuous operating ease is insured by extremely close tolerances.

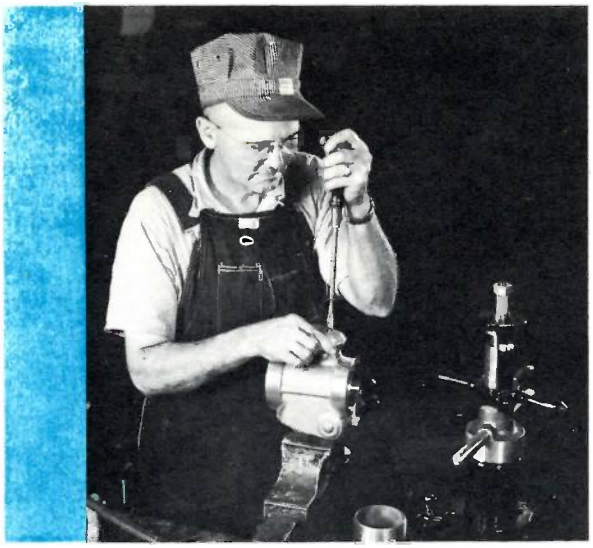
Precision instruments, from micrometers to microscopes, are used to thoroughly inspect each part for closest accuracy.

IN ASSEMBLY

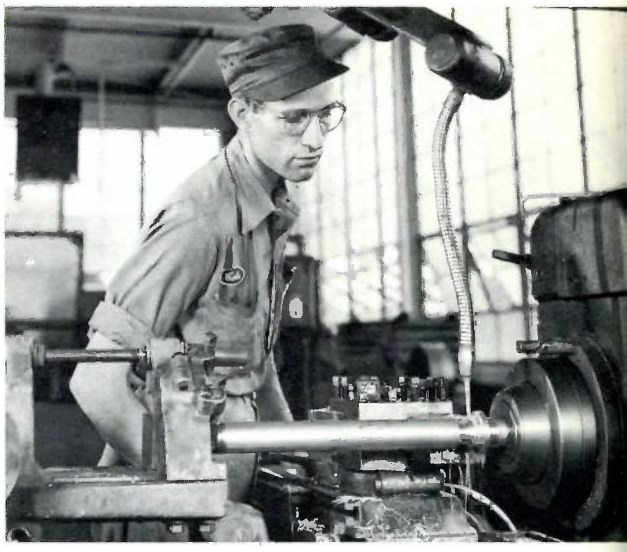
Proficient craftsmen assemble individual parts, preparing the finished product to detailed specifications. Ever-critical inspectors check each step to make sure that the required standard of perfection has been reached.

The need for dependable, long-lived equipment in the essential gas and water industries gives each Mueller craftsman pride in creating a product that will fulfill that need. Superior performance is the product of Mueller Co.

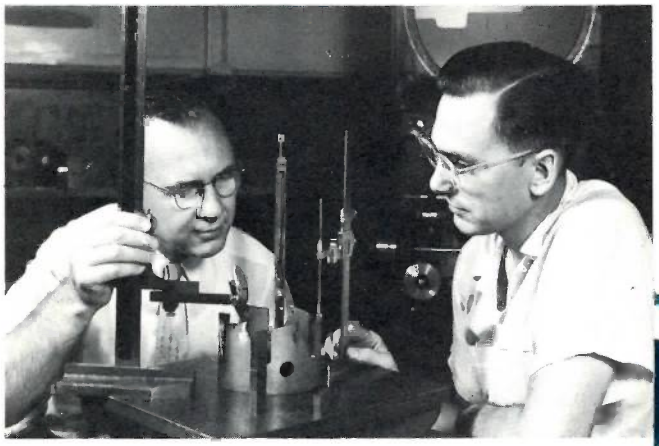
Exacting specifications are set up by experienced engineers who know customer requirements and material qualities.



An experienced craftsman, working with extreme care, inspects each component part of a drilling and tapping machine, insuring trouble-free service, efficient operation for many years.

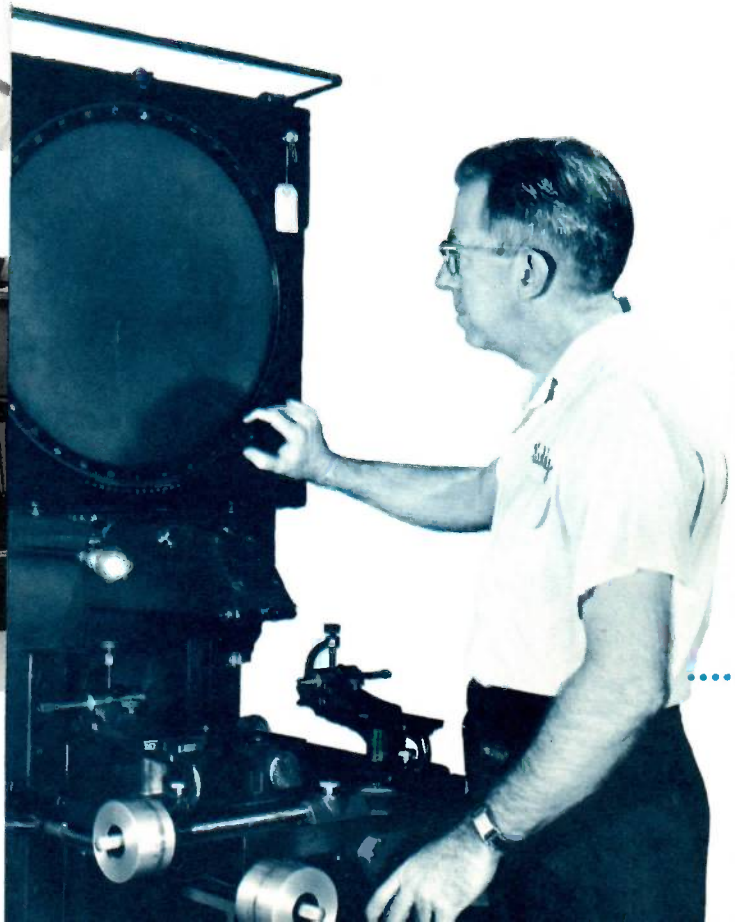


Under the watchful eyes of this expert machinist, precision machines complete an exacting cut in a stem that will be an integral part of an ever-dependable Mueller Gate Valve.



Precision instruments are used in carefully checking this shell cutter to insure long-lived, dependable performance.

Under the extreme magnification of the Metallograph, a skilled technician inspects the microstructure of raw materials and metal in Mueller products.



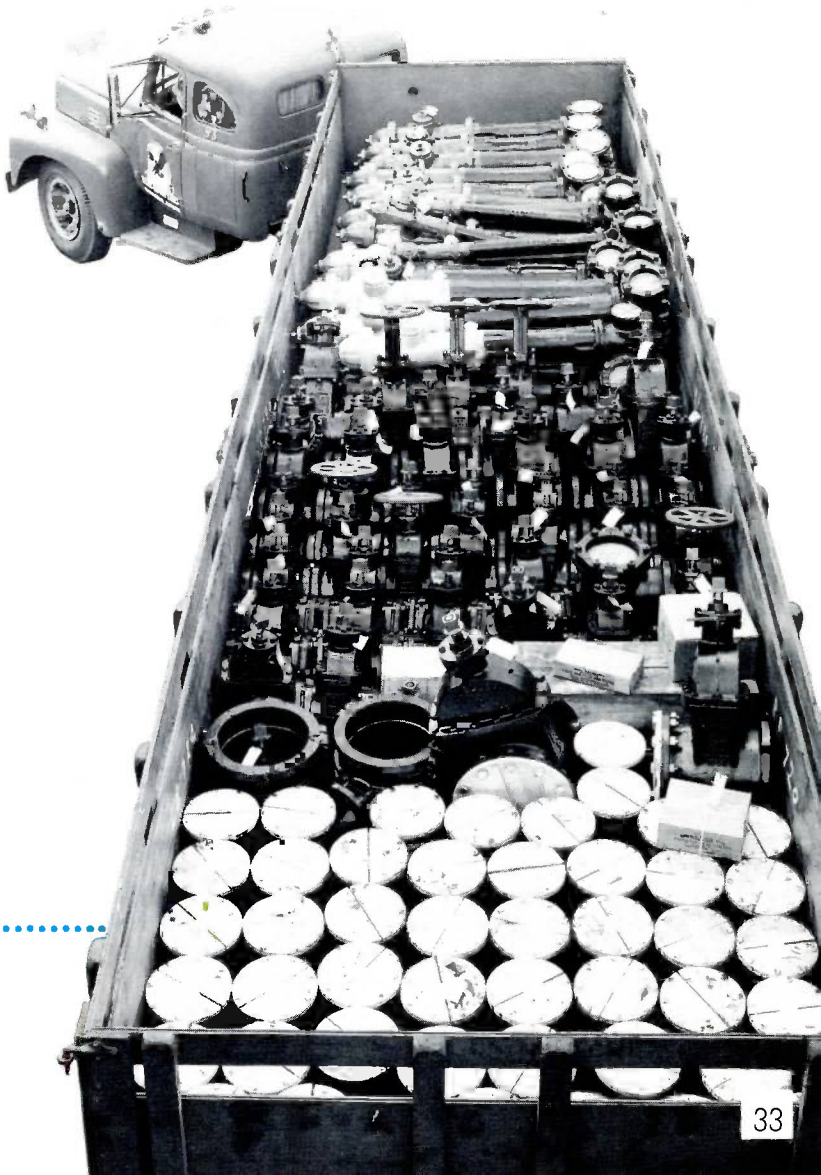
Rigid tolerances are easily maintained by the use of this optical device which gives a greatly enlarged picture of the contour of tools, gauges and products.

After extensive testing under the scrutinizing eye of an engineering expert, the Lub-O-Seal is given final approval. This Lub-O-Seal lost no efficiency after 1,000 high pressure tests.

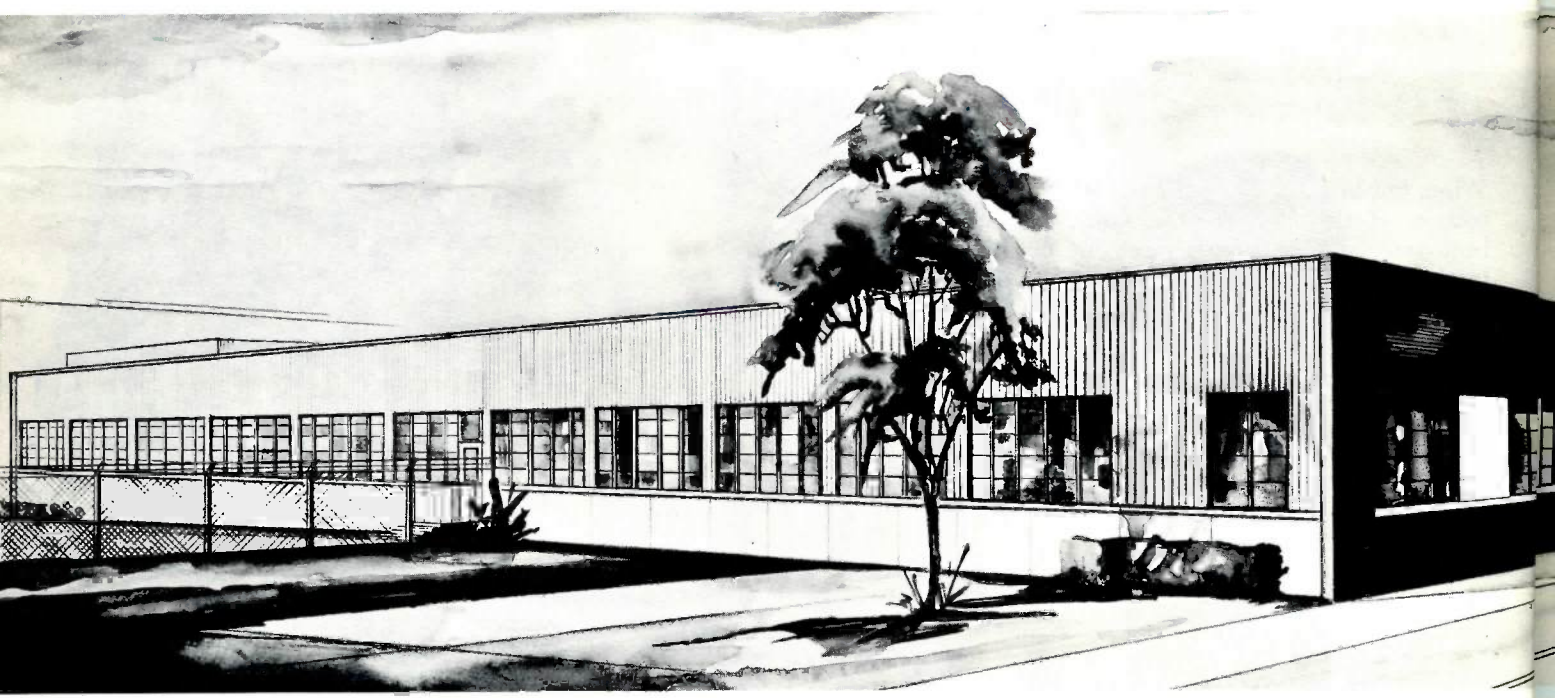
The Profilometer, a precise instrument that aids a host of inspectors in their work, reveals the surface smoothness and contours of many Mueller products.

When finished Mueller products start to work in every section of the country, the skill, care, and quality built into each unit must meet one final test . . . the test of the product on the job.

Mueller products are meeting this test, demonstrating superior quality time and time again through uninterrupted service for vital gas and water industries . . . a test which proves that the century-old, Mueller tradition of quality and craftsmanship is worthwhile.

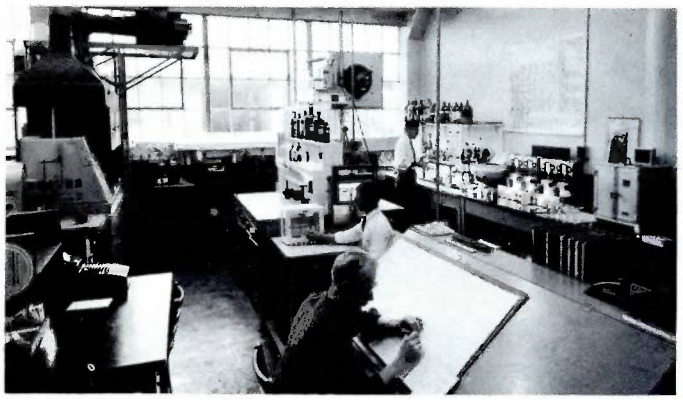


Tomorrow...



BUILDING FOR THE FUTURE . . . new buildings are now under construction at Decatur to house the Engineering, Research, Tool Engineering, Catalog and Plant Engineering Departments. A portion of the completely air-conditioned building will be devoted to a new Training School. The Research Engineering Laboratory will include a Hydro-test Room of solid concrete, where pressure tests up to 10,000 pounds per square inch can be made, a Machine Shop and the latest in testing equipment.

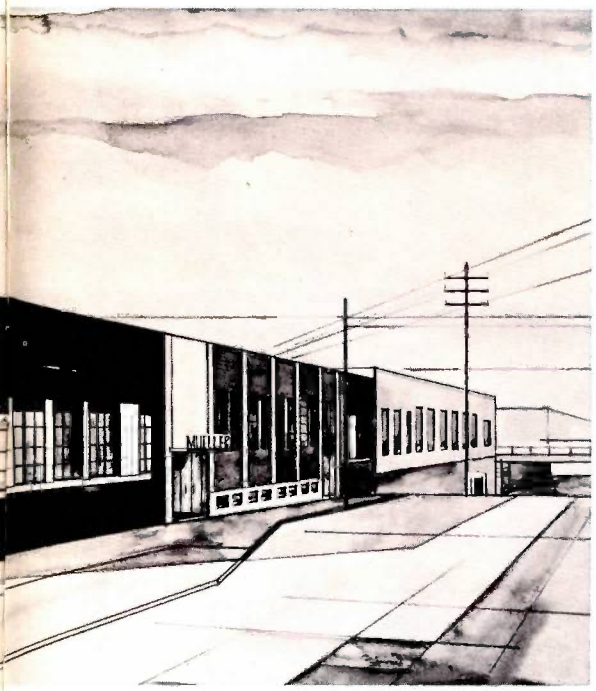
A Heat Treat Building, with approximately 13,000 square feet, including steel storage and dock area, is also under construction. The new buildings will add 64,000 square feet of new facilities.



RESEARCH . . . metals, lubricants and other materials used in the manufacture of Mueller products are subjected to extensive tests by laboratory technicians. This search is for improvements that can add longer life and greater dependability in water and gas equipment.

ENGINEERING . . . new ideas, for new products or improvements on current products, are analyzed. Any with merit are developed by trained project engineers. Approved designs are produced in Mueller pattern shops, then tested exhaustively before being made available for installation in service lines.

. AND MUELLER CO.

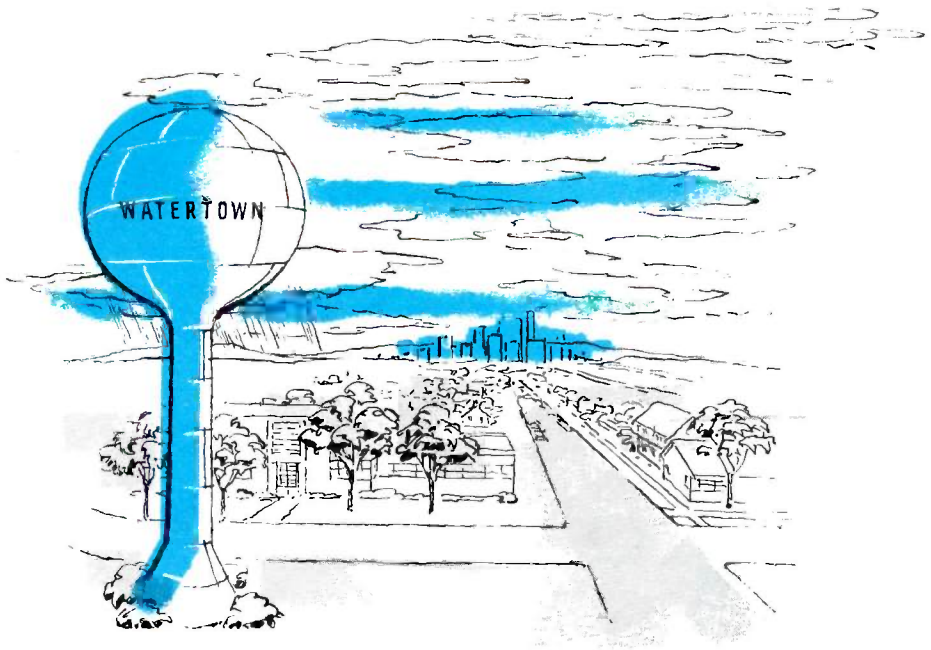


WITH the approach of the atomic age, many companies are preparing for the future with this new and different form of energy. Mueller Co. products have even been used in the Nevada tests of the Atomic Energy Commission.

But the atomic age is still over the horizon, and tomorrow's problems of the water and gas industries must be solved today.

As a major supplier of equipment used by these vast and vital industries, Mueller Co. is devoting much of its research, engineering and manufacturing skills and facilities to the problems of the future . . . and many answers are being found!

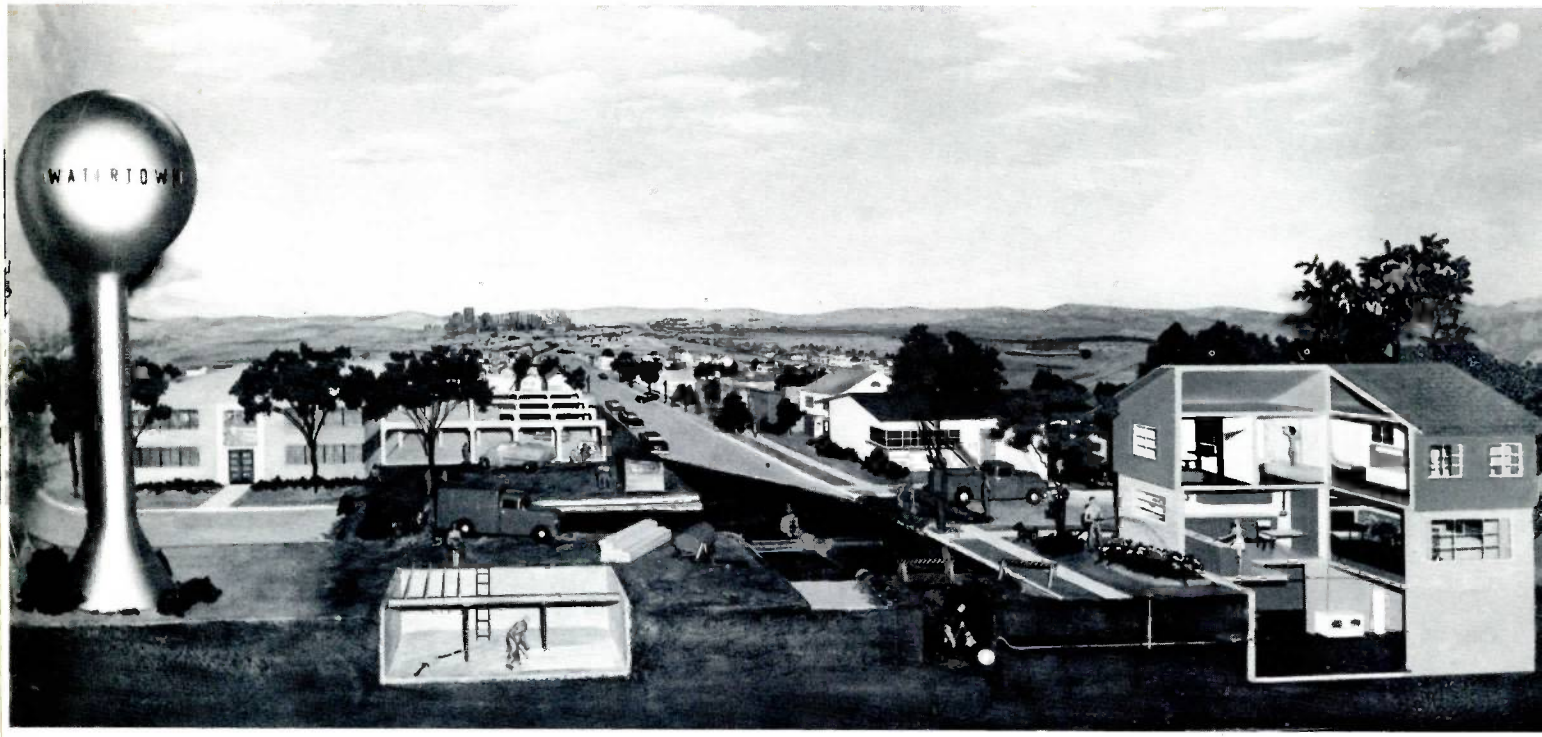
New products, methods and equipment are being developed; current ones are being improved to further aid the future growth of our gas and water industries.



"WATERTOWN, U. S. A." . . . is a miniature city, produced by the nearly-lost art of diorama. Each tiny detail is reproduced in exact scale for its position in the scene and is proportioned to correspond to the overall "bird's-eye" view. The perspective of each item is exaggerated to create an optical illusion which amplifies the depth. Through this means a view of approximately 20 miles is reproduced in less than four feet.

unseen . . . unheard . . .

PREMIERED at the 76th Annual AWWA Conference in Atlantic City, the detailed diorama captured the interest of every conventioneer.



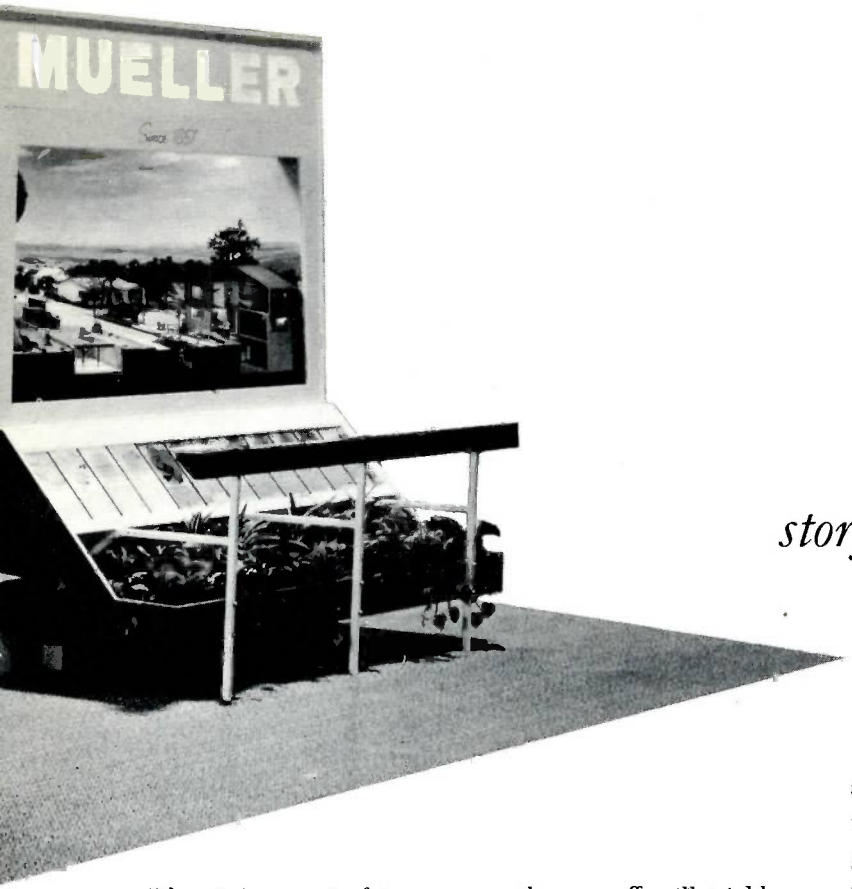
UNDERGROUND!

the story of an unfailing supply of pure, fresh water

AS vital as our water and gas industries are to our American standard of living, there is little recognition or knowledge of the vast facilities and equipment necessary to provide dependable, safe gas and water service. The products, the service systems, the protective devices are underground—unseen and unheard by the vast majority of citizens.

Yet, the story of these underground systems is both dramatic and interesting when presented to the general public. People gain a definite respect for problems of the gas and water industries when they are given even a slight glimpse of the maze of equipment and distribution facilities beneath their towns.

To provide this brief glimpse of the underground systems, Mueller Co. has prepared "Watertown, U. S. A."—a spectacular diorama showing and telling the story of how a town is supplied with pure, fresh water. The unseen, unheard, underground system is revealed in all its vastness to receive new recognition from the public it serves.



the diorama tells the story of your water supply . . .

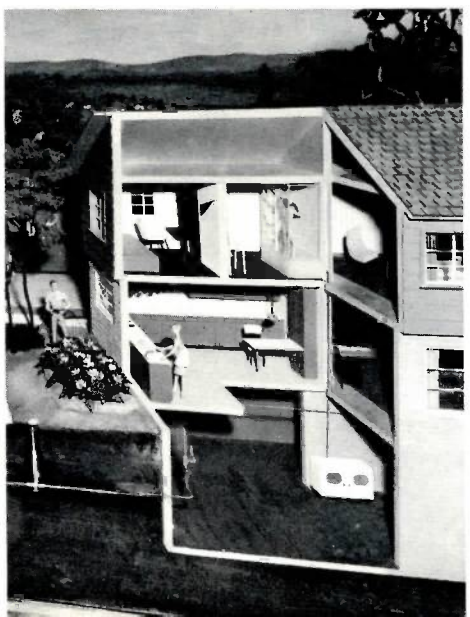
A condensation of the audio narrative presented with the diorama.

It's raining west of town—soon the run-off will trickle, gather and rush to the river. The never-ending cycle of water is beginning again! This is the story of your water works . . . of the purification processes and engineering carried on to provide a supply of pure, safe water. This story is seldom told, is almost never seen, because its workings are hidden—underground. Here is a "bird's-eye" view of Watertown, U. S. A.—*your* town. To show what goes on underground, the care and planning necessary for safe, dependable water service, let's start at the source . . .

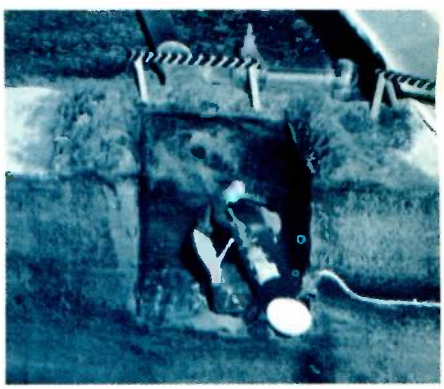
Rain water accumulates in underground pools, lakes and rivers, where it becomes available in the quantities required for daily living. Your *water works* gathers the purest part of the water, processing it in purification and filtering operations. The purified water is discharged through a system of mains that interlace the city underground.

A water tower has been placed to maintain water pressure—miles from the pumping station. Families in this suburb are so certain of instant, adequate water, they hardly realize that their source of water *is* miles away.

For every home served, your water works must install dependable connections and control devices. First, the corporation stop that connects with the main; service pipe; a curb box that permits access to the



The Smith family, of Watertown, are making full use of water—doing dishes, bathing, washing, sprinkling.



The main is drilled and tapped with a Mueller 'B" Machine for the installation of a corporation stop.

Watertown - in the making

Designing the diorama required many midnight shirt-sleeve sessions. Here Bob Flink, Art Director of Ross Advertising, details an idea for Hugh Baker, Mueller Co. Sales Promotion Manager.

Skilled sculptors fashioned figures, trees and houses from clay, wood and plastic. Perspective was tremendously exaggerated to create the optical illusion of great depth.

Towering like a giant over the tiny city, a diorama specialist plants trees in the yards of Watertown. Design and construction of the electronically-controlled exhibit took six months.

curb stop, a control valve; then the water meter. A service connection is being made for the new home. The main is drilled and tapped, and a corporation stop will be placed in the hole, without interrupting water service.

At the new school, a tapping sleeve and valve are being installed to permit the connection necessary to carry the large volume of water for the children's health and safety. A twelve-inch line will connect to the school . . . in contrast to the three-quarter-inch pipe in home connections. Yet, this pipe is added without interrupting flow to other users.

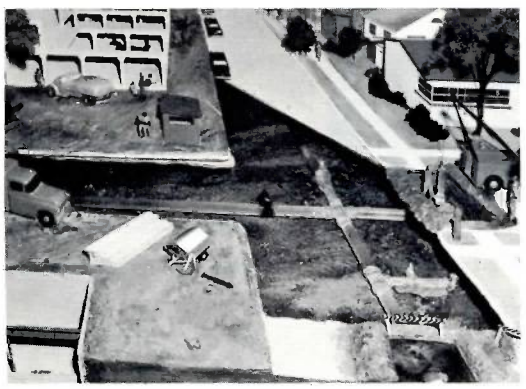
Gate valves, located at strategic points, afford complete control of any section of the system and insure that breakdowns within the system will not affect more than a small section. An inserting valve is placed in a main, while the main is under full water pressure. The result will be a control valve that operates as one put in when the main was laid.

Your water works is also your guardian from the danger of fire. The grid main system makes the fire hydrant ready with tremendous water pressure. Even in below zero weather, water will flow instantly.

Water is always on the move—being gathered, purified, processed, pumped, controlled, and transported. *It is the lowest cost, most important commodity you use.*

This is the story of water—unseen and unheard—hidden from view, yet ready to serve you at the touch of a finger.

A tapping sleeve and valve facilitate the installation of a 12" line serving the new school without interrupting service.



The street opens, revealing the gate valves that control sections in the grid main system.

A Mueller "C" Machine is lowered into position to install an inserting valve in front of the Smith's.

The equipment of the school was originally carried in a station wagon and trailer (shown in background). Present trailer is much larger and is transported by truck.

NO-BLO® SCHOOL HAS FIFTH

mobile classroom trains key gas personnel

The equipment as it is set up for the No-Blo School. Units are portable and are quickly set up by Mueller representatives.

THE widespread acceptance and use of natural gas in recent years has placed a tremendous demand on gas distribution systems, necessitating an increase in line pressures. Before these increases could be made however, new and safer methods and equipment for handling gas service installations under pressure had to be developed.

Mueller Co., a pioneer in water distribution, recognized this need and began the early development of new and improved equipment for the vital and expanding gas industry. Experiments in the design and production of equipment to insure "safer, more positive methods of working on gas lines under pressure" led to the innovation of the No-Blo principle. Since 1949, the complete Mueller line of gas equipment and fittings has been marketed under the trade name "No-Blo". These products are enabling gas men to work on lines, under pressure, confidently, safely and without interrupting customer service anywhere on the line.

ANNIVERSARY

Personnel of Connecticut Light and Power Co., The Connecticut Power Co., The Greenwich Gas Co., The Hausatonic Public Service Co., The Hartford Gas Co., The New Haven Gas Co. and the Bridgeport Gas Co. attend the Mueller No-Blo School sponsored by the Connecticut Light and Power Co.

Host to another No-Blo School was the Long Island Lighting Co. at the Glenwood Gas Plant, Glenwood Landing, L. I., New York, with representatives of this firm, Consolidated Edison Co. of New York, The Brooklyn Union Gas Co., The Kings County Lighting Co. and the Brooklyn Boro Gas Co. in attendance.

Actual demonstrations were found to be the best means of explaining the step-by-step procedures of the No-Blo Method and a mobile school was created, but not just for product demonstration. Rather, it was created to acquaint key gas personnel with the latest advances in their industry.

The school effectively explains the No-Blo principle and the equipment, machines and fittings needed for higher pressures. It clearly illustrates the safest, most economical uses of No-Blo equipment and the proper care and maintenance of this equipment for the longest, most satisfactory service.

Constant revision has kept the school current and, as new products and improvements are developed, further changes will be made. The school has become an important training session for gas personnel making installations "safely under pressure".

The school has also become an important medium for the exchange of ideas and information between gas companies and Mueller. Many practical problems confronting gas men have come to the attention of Mueller through the school—long before these problems could be presented through normal channels. This has enabled Mueller to solve many problems promptly.

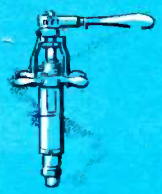
Since August 1952, the school has traveled more than 70,000 miles. It has been presented in every state of the United States and every province of Canada. Executives, engineers and other key personnel of over 400 gas companies, maintaining some 17,000,000 services, have participated. School equipment travels in a specially-constructed trailer and portable units are quickly set up to permit actual demonstrations of the latest methods in use today.

The enthusiastic reception of the No-Blo School by gas men, and their expressed request that it continue, has prompted the Mueller Co. to make the school available indefinitely. Now, as the school enters its second phase of training, reception promises to be more enthusiastic than ever before.

SERVING THE WATER AND GAS INDUSTRIES...

These are the major lines of products for these vital industries that Mueller Co. manufactures today.

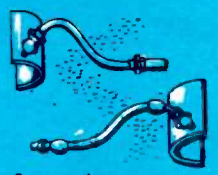
Drilling and Tapping Machines



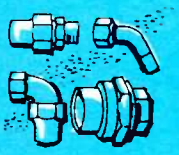
Small Drilling Machines

Large Drilling Machines

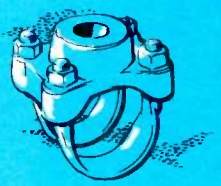
Corporation Stops



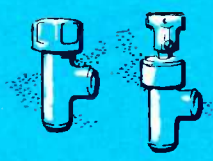
Gooseneck



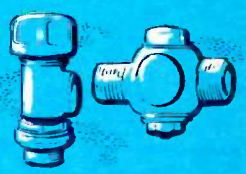
Service Pipe and Fittings



Service Clamps



Welding Inlet Service Connections



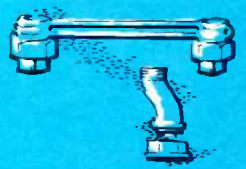
Threaded Inlet Service Connections

Curb Stops

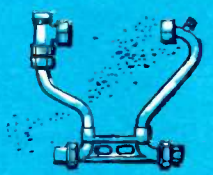
Curb Boxes

Iron Body Meter Stops

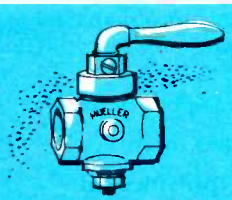
Capped Steel Valves



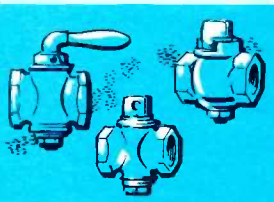
Meter Bars and Fittings



Meter Setting Equipment

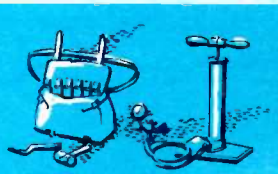


Rough Plumbing



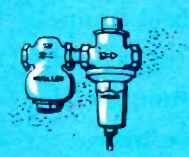
Brass Gas Stops

Laboratory Goods



Tools and Miscellaneous Equipment

Line Stopper Fittings and Equipment



Regulators, Strainers and Relief Valves

Fire Hydrants

Gate Valves

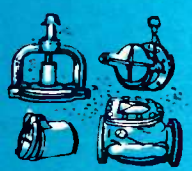
Valve Boxes

Inserting Valves and Equipment

No-Blo Steel Valves

Welding and Threaded Main Fittings

Mechanical Joint Main Fittings



Miscellaneous Valves and Equipment

This has been but a brief glimpse into Mueller Co.—its background, products, facilities and, most important, its customers.

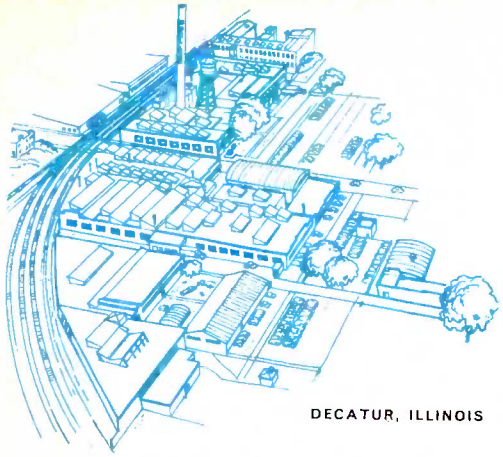
Since its founding one hundred years ago, Mueller Co. has advanced steadily, keeping pace with the expanding water and gas industries. But even a century-old company cannot stand still—the constant press of competition, changing markets and the demand for new or improved products necessitates continuous strides of progress.

At Mueller Co., new engineering, research and manufacturing facilities are in the blueprint stage or are already under construction. Intensive sales and service training programs are being planned. New products are being developed; current products are being improved.

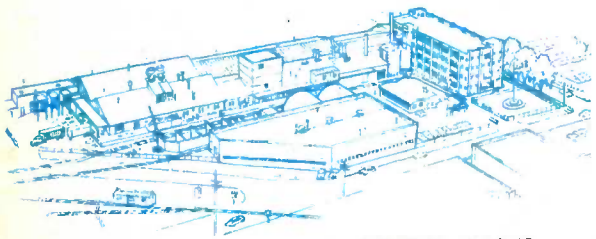
With this far-reaching program of expansion and growth, Mueller Co. is eagerly, confidently looking forward to the second century of service.

William H. Hipsher
Executive Vice President
Mueller Co.

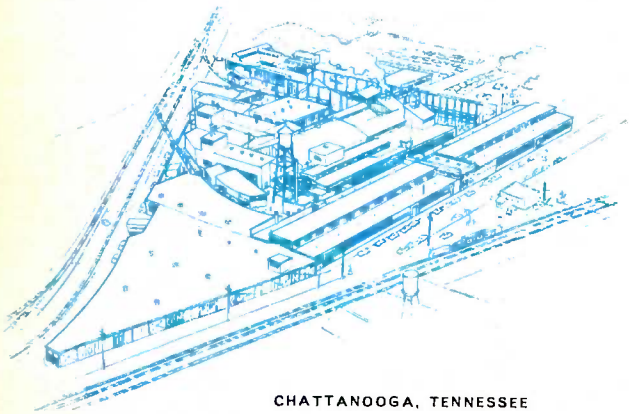
Printed in U.S.A.



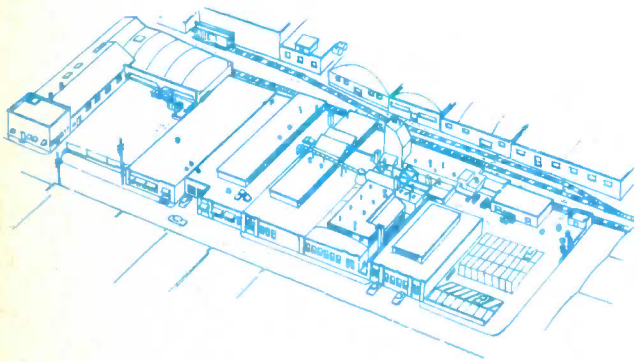
DECATUR, ILLINOIS



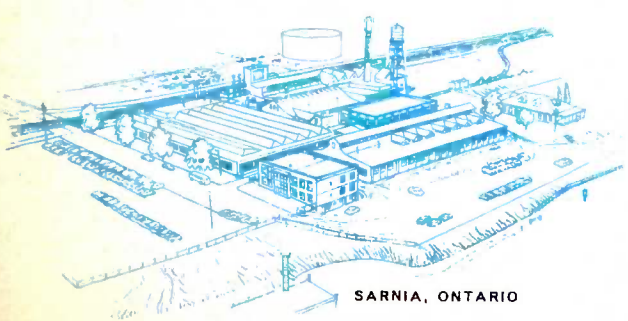
DECATUR, ILLINOIS



CHATTANOOGA, TENNESSEE



LOS ANGELES, CALIFORNIA



SARNIA, ONTARIO