MUELLER
Record
FEBRUARY • 1959

ENTHUSIASM
Is the Key

. . . . . see Page 4

Recording Our Thoughts

Our sincere thanks is extended to the Cincinnati, Ohio, Water Works Department for the fine material describing the installation of a 48-inch main through an abandoned subway in Cincinnati. We thought the story most interesting, and hope you, too, enjoy it.

Our grateful appreciation also goes to Jim Corey, AWWA Director of Water Works Advancement, with whom it was this writer's pleasure to meet recently. Those of you who have met Jim are aware of his enthusiasm and his capability in work of this nature. His new position will take him to most, if not all, of the Section meetings during 1959. Talk with him if you have the opportunity, and you will soon recognize the importance of the Water Works Advancement Program and how you, as an individual, can help make it click. The entire Program is aimed at a sincere democratization of the AWWA with you, Mr. Manager, in mind. The Program needs your active participation, however, to even partially succeed.

While the circulation of the MUELLER RECORD has consistently grown througout the years, we still feel that there are many individuals and firms whose names do not appear on our lists, but who would appreciate receiving the magazine. We will be trying to find these additional persons throughout 1959 by using various means. We will try inserts inside the RECORD which you can fill in and return. We plan to contact each of you, at some later date, to ask if you have an associate who would like to receive the magazine. Such an effort will require the co-operation of all our readers, and your help will be sincerely appreciated. **If your name and/or address are mis-spelled on the back cover of this issue, please clip that section off, make any necessary corrections, and mail to: Editor, MUELLER RECORD, Mueller Co., 512 W. Cerro Gordo St., Decatur, Illinois. Thank you.**

Savannah Gas Company uses its "World's Largest World" effectively for seasonal displays. Here you see Santa and his reindeer cavorting around the globe at Christmas-time. Savannah Gas was the subject of a feature in the Christmas issue of the MUELLER RECORD.

MUELLER RECORD

FEBRUARY • 1959

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Editor
Jim M. Milligan

★

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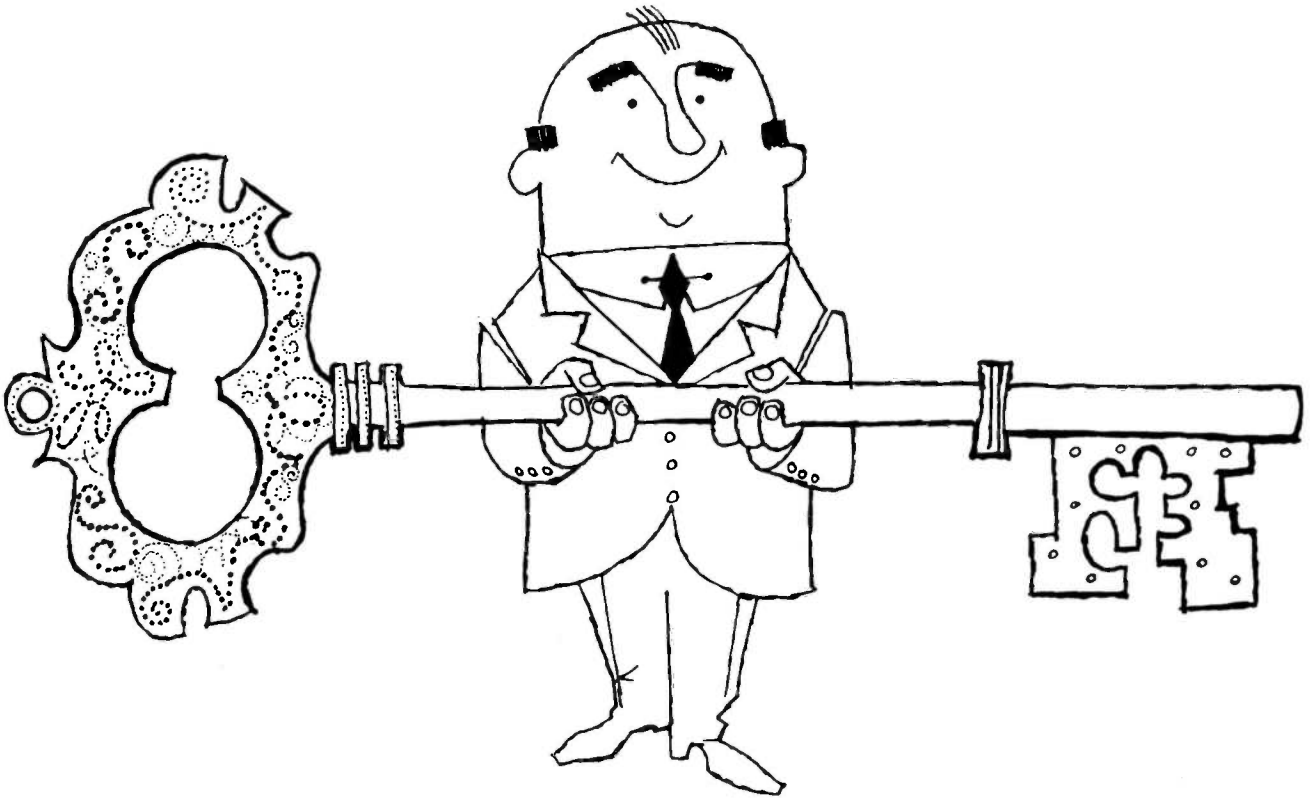
Our Cover this month is an attempt to display, in cartoon art, the enthusiasm necessary to make a success of AWWA's dynamic new Waterworks Advancement Program. This Program is explained within this issue —for the first time since its formal acceptance by the Board of the American Water Works Association in January.

Contents

Preview

Next month, the MUELLER RECORD is proud to bring you a detailed and concise account of the state of the natural gas industry, as reported by A.G.A. President J. Theodore Wolfe, president of Baltimore Gas and Electric Co., Baltimore, Maryland. Mr. Wolfe opens his remarks with this statement: "With a record-breaking 32 million customers and current annual sales of more than $4.5 billion, the gas utility and pipeline industry enters 1959 confident that it will continue its dynamic growth and provide even greater service to millions of residential, commercial and industrial customers."

Be with us next month for this outstanding report from your Association president!!!



In Waterworks Advancement

ENTHUSIASM

Is The Key

To Success

FRED Merryfield, professor of sanitary engineering at Oregon State College and then outgoing president of the American Water Works, summed it up quite well at the annual AWWA meeting in Dallas last spring when he said:

"On April 21, 1958, the Board of Directors approved 'Operation Water Works Advancement', which was suggested by the Public Information Committee. This program is intended not merely to increase the public knowledge of the technical problems of water works development, but also to increase understanding of its basic conditions, problems, responsibilities, accomplishments, weaknesses, and ways and means of improvement. The public must be told of the advantages stemming from good, adequate self-sustained water sys-

The AWWA Water Utility Advancement Committee meets in New York City to give final approval to the report. Seated from left to right are: R. F. Orth, John H. Murdock, Jr., Wendell R. LaDue, Lauren W. Grayson, AWWA President Lewis S. Finch, Fred Merryfield, Jim Corey, William J. Orchard, Eric F. Johnson and Raymond J. Faust.

Harry E. Jordan (right), who retires September 1 as Secretary of the AWWA after nearly 23 years of service, receives congratulations from his successor, Raymond J. Faust, executive assistant secretary since 1951. Looking on are Lewis S. Finch, AWWA president and vice-president and chief engineer of the Indianapolis Water Company, and Lauren W. Grayson, AWWA vice-president and general manager and chief engineer of the Public Service Department, Glendale, California. Mr. Grayson is AWWA president-elect.

tems, with the objective of creating and maintaining improved service."

Yes, these words really started something that is heralded by many to be the start of a new era in water works progress. To this end, the AWWA has created the Water Utility Advancement Committee, hired James B. Corey as a new staff director of advancement to coordinate the new activity, and set about the job of getting the program underway.

And at the recent annual meeting of the AWWA board of directors (January 25-27, 1959), the board approved formal plans after hearing a report of the Advancement Committee, made by Chairman Fred Merryfield. Developed as it was under the watchful eye of the Association President Lewis S. Finch, who served on the committee with such men as Frank C. Amsbary, Jr., Lauren W. Grayson, Wendell R. LaDue, Thomas W. Moses, John H. Murdock, Jr., William J. Orchard and R. F. Orth, the program is broad in scope.

While this key committee does not see in its new program a cure-all for the ills afflicting the industry, the Advancement Committee's foreward to its report to the board said, in part:

"The Water Utility Advancement Committee considers that the ultimate goal of the advancement effort is improved water service. Toward the achievement of this goal its efforts are to be directed into two general but distinct areas: professional advancement and community relations. In this report the Committee recommends a general long-term policy, which will be revised as experience indicates. The committee considers it essential to the success of the program that it be motivated by the Section Advancement Committees and implemented in communities through Association members."

The objectives of the professional advancement area include providing tools (creation of materials

John Murdock, Jim Corey and Fred Merryfield confer on the new Advancement Program.

AWWA staff members discuss co-ordination of the program in January. Left to right are: Eric F. Johnson, assistant secretary in charge of publications, Jim Corey and Ray Faust.

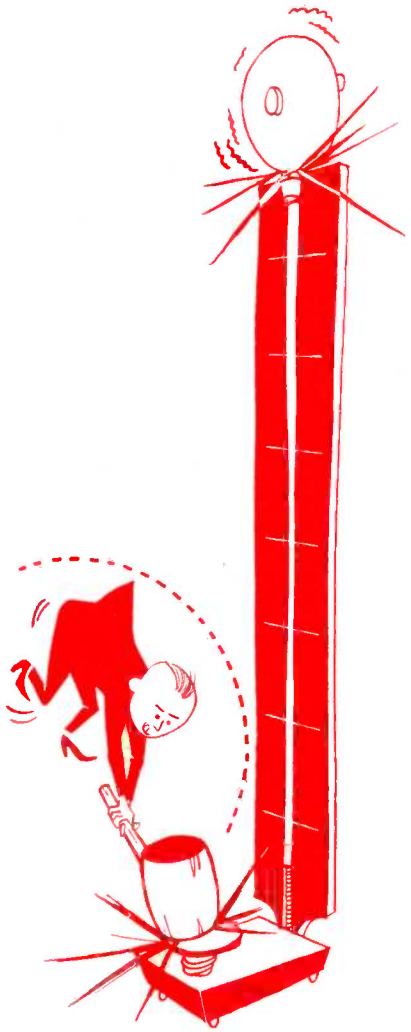
This group photo was taken at the January AWWA Board meeting in New York City. These are the men who gave formal approval to the Waterworks Advancement Program, which is to be supplemented by action on the local level.

and holding seminars and institutes) to provide self improvement through education of present and potential water utility managers; to improve communication in the field through greater AWWA membership among water utility management members; and to recruit, develop and retain a professional group of managers through a personnel services program. In this phase of the work, Section officers would cooperate with existing colleges and universities, as some have in the past, to develop workable short course programs.

The Committee defines the community relations area as the local management function that appraises community attitudes toward the utility, and identifies and relates utility programs of action to earn community respect and confidence for the utility. The Committee believes that there are four areas of interest, and that Section and local efforts should be emphasized in this order: all levels of water utility employees all types of utility customers, utility policy makers and then, the rest of the public. The Committee has decided that materials and program aids will be developed in this order. In addition, all Sections will be urged to expand their publicity effort through all possible media to more effectively tell the interesting facts about water.

The Committee already has begun its planned continuous review of materials and program aids available from sources outside of the Association. It also is starting a program of carrying out plans to publicize the industry in ways that will support local community relations programs. The Committee is encouraging companies and organizations outside of the Association to cooperate in every way possible with the community relations program although, of course, the Committee does not give any of these groups formal sanction.

The Water Utility Advancement Committee has gotten away to a fast start, but its members know it will take a long time, many years in fact, before enough local community relations programs can be developed to have much effect on the millions of people involved. One start in 1959 is an emphasis on providing "home town newspaper" stories on members who attend Section meetings. Another plan is to develop and provide Section members with "how to do" summaries on holding utility open houses, on dealing with the press and in developing interesting local facts on the growth of water use and facilities in a community.



IN SUMMARY

As stated before, this new program is now officially sanctioned and is getting off to a good start. In the opinion of this writer, and also of many people in the industry, it will fail miserably unless it stimulates participation at the local level—that is: more active membership by utility managers in the Association's professional advancement programs and more activation of organized community relations programs.

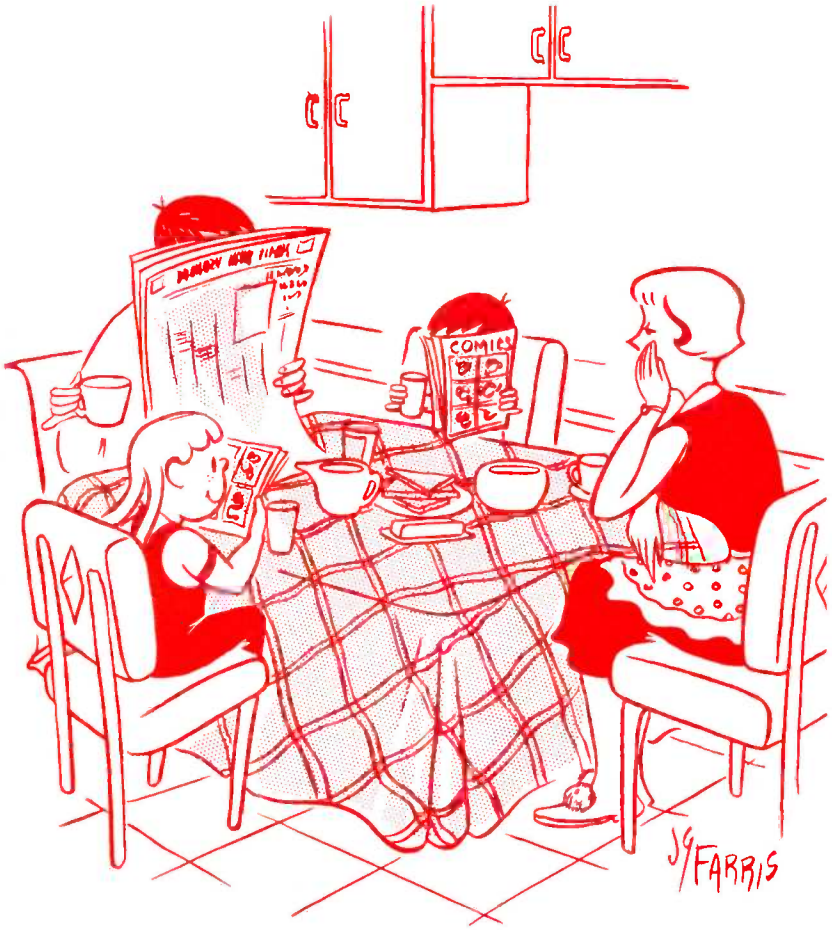
The program as summarized in this article was developed because of support from the "grass roots" of the organization as well as that of the industry leaders. It owes its existence to the hopes and efforts of many people. One such person is Robert G. Seymour, director of the Executive Development Center at the University of Illinois. For several years, the Illinois Section of AWWA has held a water works management school at Allerton Park, near Monticello, Illinois, with the friendly and helpful cooperation of Mr. Seymour. In fact, many of the techniques and ideas used in the Illinois school by Mr. Seymour have formed the basis for the new management education program.

As Committee members often have said, the year 1959 certainly will be one of investigation, appraisal and trial. Information and planning to implement the Committee's long-range objectives will be exposed to members of Section meetings with a request that criticism and suggestions be made. Such "grass roots" opinion and assistance is sure to aid immeasureably, and the Committee is seeking such cooperation.

What this really means is that the year ahead may well spell eventual success or failure for this Advancement Program. It really means or puts the "YOU" into it. Maximum effort is needed at all levels, but it must have the all-out and enthusiastic support of water utility managers if any real progress is to be made.

Let's all pitch in and develop this program so that it will benefit everyone, both as an individual and as an important segment of the American water works industry.

Living in the lap of luxury isn't bad, except that you never know when luxury is going to stand up.



Off the Record

Rip Van Winkle is the only man who became famous while asleep.

* * *

Dog tired at night? Maybe you growl too much during the day!

* * *

Letter to a correspondence column read: "I'm only 19 and stayed out until 2 a.m. the other night. My mother objects. Did I do wrong?"

The answer was: "Try to remember."

* * *

The good little mink died and went to Heaven where St. Peter met him at the pearly gates.

"You were a good little mink on earth," the keeper of the gate greeted him, "so you can have anything you like up here."

"Well," the little mink replied, "I think I'd like a coat made of little chorus girls."

The second floor tenant called the party below and shouted: "If you don't stop playing that blasted saxophone, I'll go crazy!"

"I guess it's too late," was the reply. I stopped an hour ago."

* * *

A traffic expert has said that if all the cars in the nation were put end to end, some nut would pull out and try to pass them.

* * *

The diamond is the hardest mineral of all. It even makes an impression on a woman.

* * *

Unimportance is the sensation that comes when you make a mistake and nobody notices it.

* * *

In some spinal columns, all the bone seems to be in a lump at the top.

* * *

Angry wife: "What insane notion ever possessed you to buy two elephants?"

Inebriated Husband: "The man wouldn't break up the pair!"

"Tell Charlie that joke you heard at the lodge meeting the other night"

For Your Reading Pleasure

They Sail The Briny Deep

THE year 1941 will always live in the memory of a man named Lowell Wakefield, son of an Alaska family long engaged in the business of herring fishing. That was the year he first saw "haystacks" in the sea, off the storm buffeted island of Kodiak. There appeared at low-tide a phenomenon seldom witnessed except on rare occasions by fishermen off the lonely coasts around Alaska and the Bering Sea —hundreds of giant King crabs, piled one on top of another in a huge pyramid—why, even the most eggheaded students of creatures of the deep have never been able to explain.

The Kodiak islanders gathered the beached giants and had a memorable crabfest. The meat of the claws and legs proved to be more delicate than lobster and astonishingly flavorsome. Wakefield's imagination was fired by the incident. These scores of fabulous crabs were a type seldom seen in the area, vicious-clawed monsters, some of them measuring six feet from tip to tip. As it turned out, he was destined to pioneer from these ugly eight-legged creatures, a $6 million industry never before essayed by an American.

He sent some specimens to the Fish and Wildlife Service in Seattle. "These are delicious," he said, "but what kind of crabs are they?" Veterans of the Wildlife Service identified them as **paralithodes camtschatica,** specimens of the King Crab, a giant crustacean peculiar to the North Pacific. When World War II ended, Captain Wakefield decided to go a-crabbing. The Japanese with their floating canneries had been crab fishing commercially for years. Wakefield had a better idea—not canning, but freezing the delicious meat of the crabs taken fresh from the sea.

Netted fresh from the icy sea, monstrous crabs are dumped immediately into tanks of circulating salt water. Here the crabs become sluggish and more manageable.

With money raised by the sale of stock in his new venture, plus an RFC loan, he had a specially designed 140-foot trawler, the **Deep Sea,** built with the hull of an ice breaker and outfitted it as a seagoing modern processing and freezing plant. Zero degree storage space equalled that of eleven refrigerator cars. Here quarters comfortably accommodated twenty-two men. She was equipped with wartime-perfected radar and sonar and all the modern gear possible to make the venture successful and profitable. She represented an enormous investment for the one-time herring fisherman. He formed a new company, Wakefield's Deep Sea Trawlers, Inc., and sailed off to make his fortune in the costliest fishing vessel ever to fly the American flag.

His first crew consisted of seasoned Alaska and Seattle fishermen, some of them former Navy and Merchant Marine officers, and six Aleuts from Akutan who were experienced whalers. They trawled the sea with nets of handmade Irish hemp 150 feet long and 120 feet wide. One-ton flat doors attached on either side kept the face of a net open, planing out as the **Deep Sea** moved. In this way, they brought in 300 to 800 crabs an hour, towing at 100 fathoms.

As the crabs were hauled aboard, they were dumped into "live" tanks of circulating sea water where, removed from the mighty pressure of the sea, they became sluggish and manageable. They were then washed, placed into wire baskets and plunged immediately into boiling sea water and cooked. After cooking, the meat was removed, frozen in blocks and, as an extra insurance to perfection, covered with a freezing glaze of fresh, clear water. The **Deep Sea** could freeze and store 170 tons of crab meat. Once loaded, she headed back to port, and the frozen delicacy was transferred to a refrigerated warehouse near Seattle and wrapped for shipment to purchasers throughout the United States.

The first three years were rough ones, during which Wakefield struggled to create a market. By 1950, the battle began to pay off. Fine restaurants were buying

Handling fishing gear at sea. Looks like a real blow, but this is a typical sea for northern fishermen.

Wakefield's new frozen crab heavily, and it had made its first appearance in grocery stores. Two years later, Captain Wakefield was face-to-face with a brand new problem—demand threatened to exceed the supply.

He made a quick decision that seemed foolhardy to old hands along the Seattle waterfront. He decided to risk a winter voyage to the Bering. The **Deep Sea** was the only fishing vessel underwriters ever insured for winter voyages, but even she had always kept to port in January and February.

At midnight, on January 22, 1953, the motor trawler **Deep Sea** cast off mooring lines in Seattle and cleared for the Bering fishing grounds, her destination a point 60 miles north of the Alaska Peninsula, midway between the Pribolofs and Bristol Bay. She planned to venture north through Unimak Pass, a feat no commercial vessel had ever before attempted in the dead of winter.

The trip across the North Pacific was rough but uneventful. They stopped for fuel and water at False Pass, Alaska, on the thirty-first, and two days later they took on three more crew members at the village of Akutan to make up a full twenty-two man complement. Early in the morning, on February 4, they reached their destination and began fishing operations.

It was clear, calm and cold. They made two prospecting hauls without success, but the third trawl showed promise. Then it began to blow, and for five full days all hands fought the fury of the Arctic. It was a norther, 80 miles an hour fresh from the Polar ice cap, and the temperature was minus 14. Each sea crashing over the ship added to the tons of ice forming on decks, superstructure and rigging, and the men chopped and beat at it with axes, crowbars and clubs day and night to prevent capsizing.

On the tenth, the wind swung to the southwest and moderated to a gentle breeze. Air temperature climbed to 22 degrees. A net was dug out from under two feet of solid ice, and went over the side for a one-hour tow. As it was lifted alongside the ship, jammed to the wings with eight or ten thousand crabs, it was carried away from the sheer weight of the enormous creatures, and net and haul were lost.

Prize-winning crab is held aloft by Thor, cook on the chartered motor vessel, "Shelikoff." Fishermen are offered a $50 bonus for every crab measuring six feet or over.

A new net was bent on, and trawling operations continued. They ended up packing to maximum capacity—15,000 pounds of King Crab legs and claws a day. Captain Wakefield had accomplished his purpose. His hard-earned market had an unfailing, year-round supply of king crab, as promised.

Today, Wakefield Trawlers, Inc. supplies most (over $3 million) of the total Alaska King Crab market in the country, which, canned and frozen, is running close to $6 million dollars and still going strong. It is Alaska's biggest and fastest-growing industry. The giant trawler **Deep Sea** is now mothership to a fleet of five Wakefield-owned vessels and twenty-five trawlers operating under contract. They hunt the crabs by radar and use a radar buoy as a "pip" so that they never cover the same spot twice. Fish and Wildlife scientists are free to travel aboard Wakefield ships and carry on research at no cost to the Government, and any data accumulated by Wakefield Trawlers, Inc. in the course of their extensive operations is turned over to the government fisheries agencies for their records.

—::—

Oddly enough, it's the person who knows everything who has the most to learn.

Connect Branch Mains...

QUICKLY SAFELY SIMPLY

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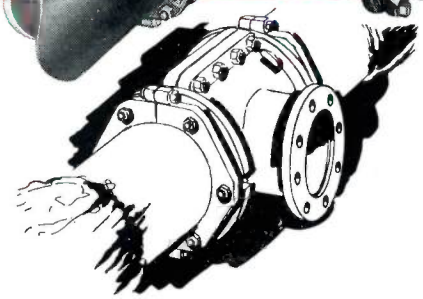
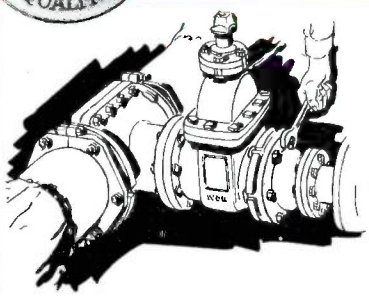


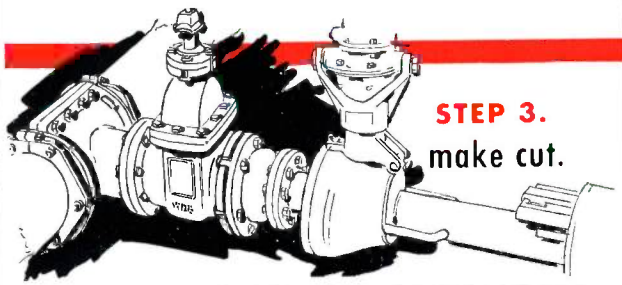
STEP 1. attach sleeve.

Clean main of rust and scale. Position and bolt tapping sleeve to main. Tighten or calk and lead end joints of sleeve.



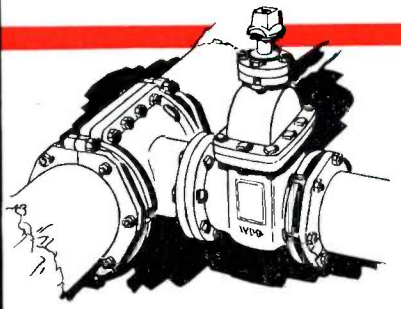
STEP 2. attach valve and CL-12 machine.

Bolt tapping valve to tapping sleeve. Bolt CL-12 Drilling Machine to tapping valve. Open valve all the way.



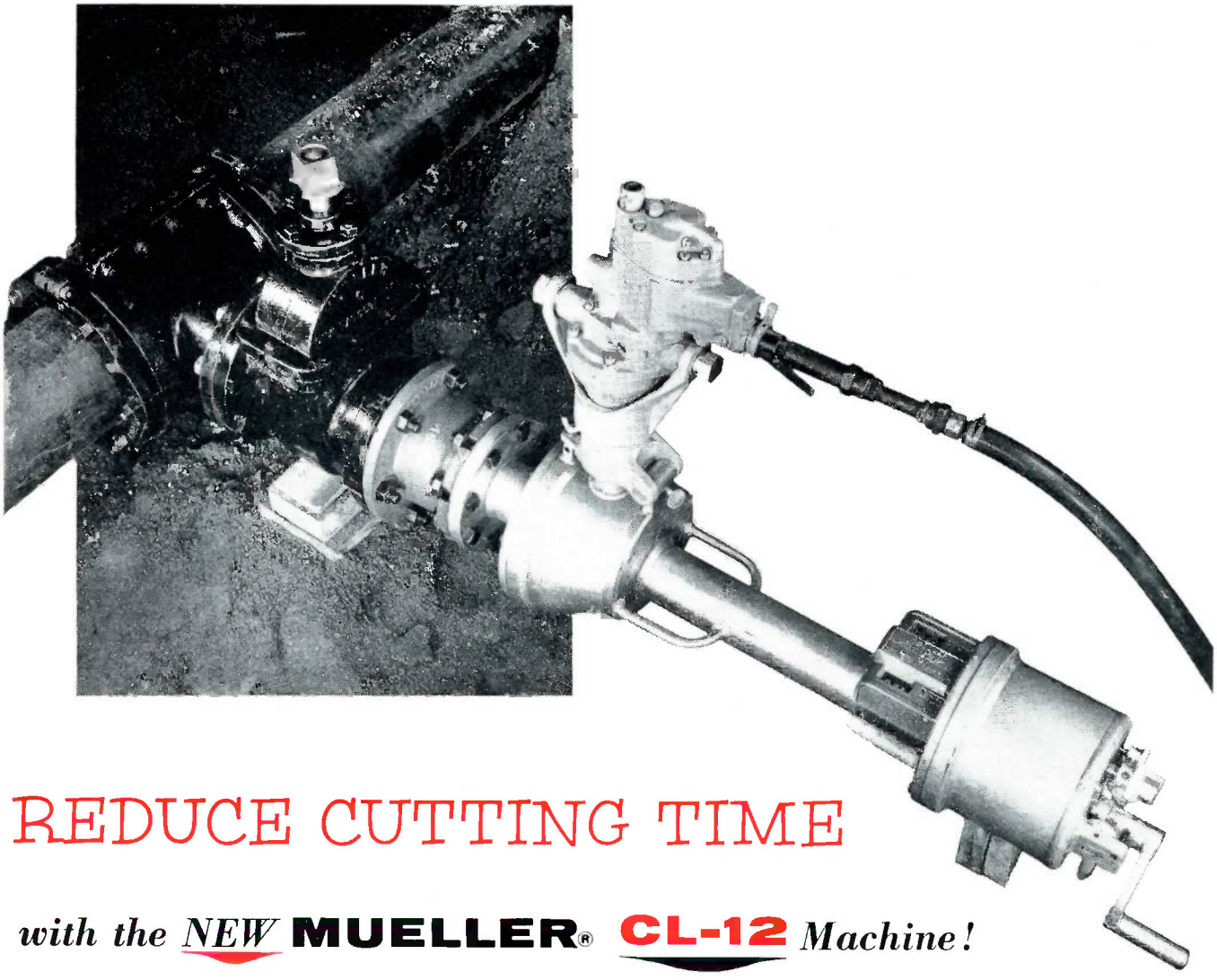
STEP 3. make cut.

Advance boring bar with rapid hand feed crank until pilot drill almost contacts main. (Full-time tool position indicator eliminates tool position guesswork.) Turn "auto feed set" knob until exact depth of cut required appears on feed travel indicator. Engage automatic feed and make cut. ("CL-12" may be operated by hand or power.) When cut is completed, feed will automatically disengage. Retract boring bar, close valve and remove machine.



STEP 4. make connection.

Slip branch main into valve and tighten or calk and lead joint. Open tapping valve to activate branch main.



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On December 11, 1958, the Board of Directors of Mueller Co. held its annual meeting in Decatur. One new officer and two new Board members were elected at this time. Dan R. Gannon, general sales manager, was named vice-president and general sales manager. Joining our Board were Harold M. Sherman, Jr. and Joe H. Gardner.

Mr. Sherman is vice-president of Guaranty Trust Company of New York, A native of Newport, Rhode Island, he joined the staff of Guaranty Trust in 1930. After thirteen years of handling the bank's business in six mid-western states, he was appointed vice-president in charge of the bank's general organization. A resident of Larchmont, New York, Mr. Sherman is married and has one son.

Mr. Gardner, a resident of Washington, D.C., is president and treasurer of the Bingham & Taylor Corporation, Culpepper, Va., and the Opelika Foundry Company, Opelika, Ala. He is also a director and member of the executive committee of the Universal Ball Company, Willow Grove, Pa,. and a member of the board of trustees of Fauquier Hospital in Warrenton, Va. Mr. Gardner was a Navy Commander during World War II.

On November 25, Mueller, Ltd. held its annual meeting in Decatur. O. E. Walker, formerly vice-president and works manager of Mueller Co., was elected to the position of executive vice-president and general manager of the Sarnia subsidiary. All other officers and directors were re-elected.

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Off the Record

A loafer is a man who rests before he gets tired.

* * *

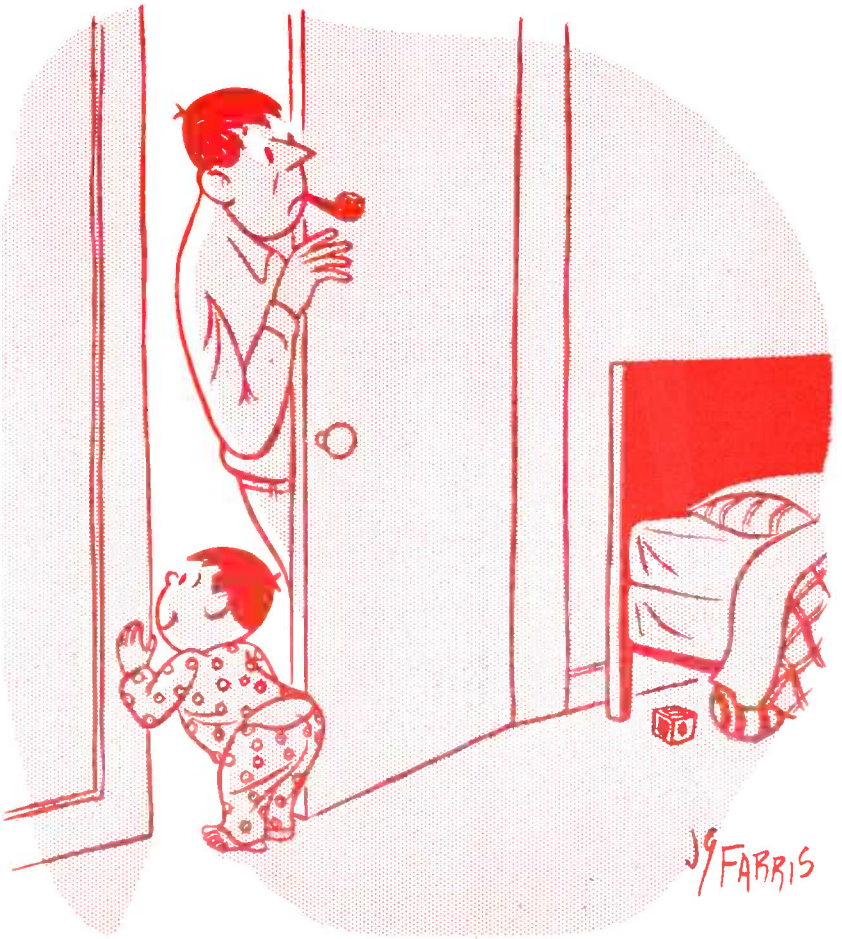
Beware if your doctor says you are sound as a dollar these days. He may mean you are half dead!

* * *

Legally the husband is head of the household and the pedestrian has the right-of-way. Both are safe as long as they don't try to exercise their rights.

* * *

Don't be unhappy if your dreams never seem to come true. Just be thankful your nightmares don't.



"Today is January 16th. January 16th. January 16th. January 16th. Try to remember it!"

An optimist is a person who knows exactly how sad a place the world can be. The pessimist is the one who is forever finding out.

* * *

The best way to forget all your troubles is to wear tight shoes.

* * *

Following a good example is not always the wisest course of action —look what happens to a counterfeiter.

* * *

A halo has to slip only a few inches to become a noose.

* * *

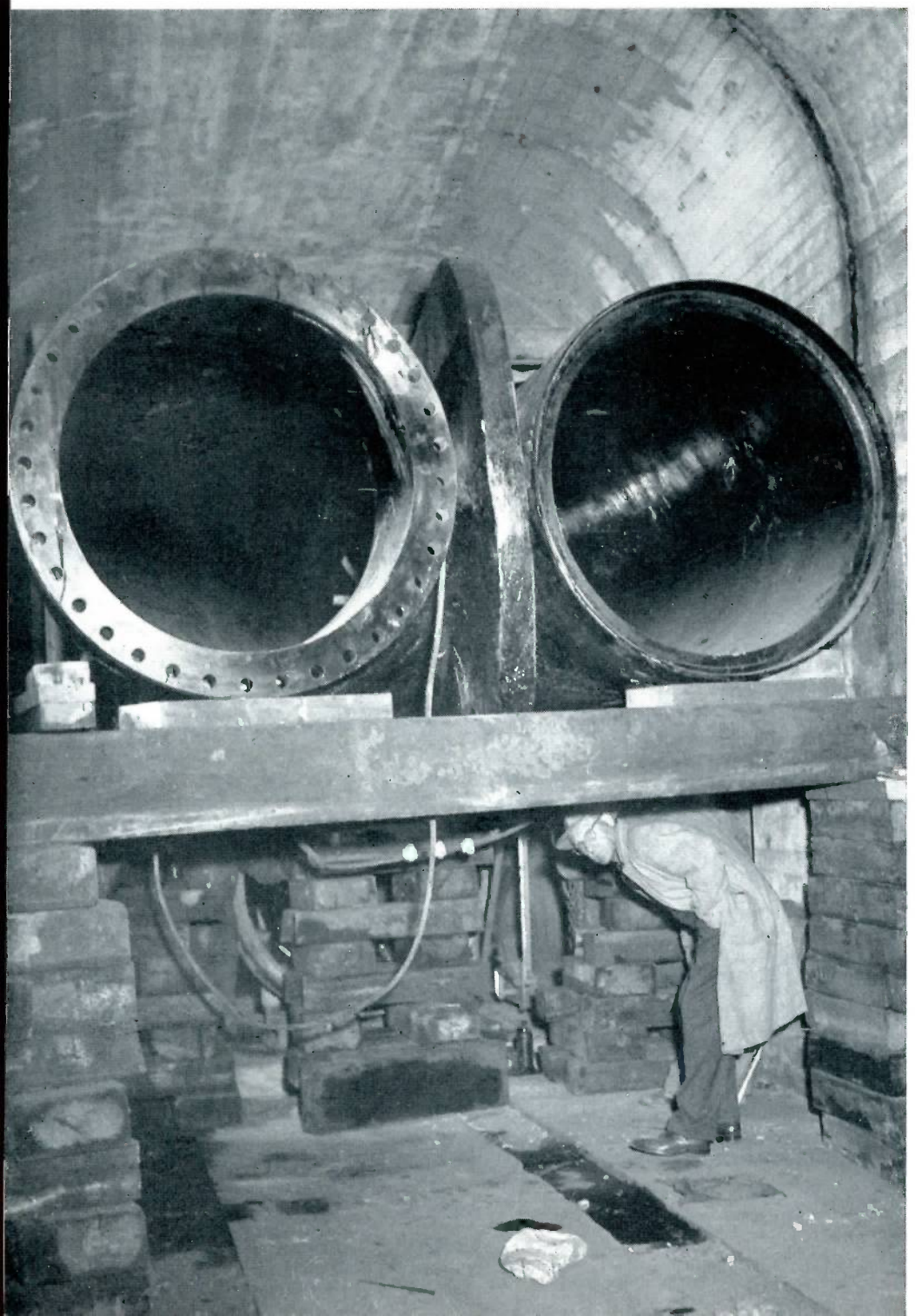
Money talks as much as ever, but what is says nowadays makes much less cents.

* * *

There's a line on the ocean which, by crossing, you can lose a day, There's one on the highway where you can do even better.

Cincinnati, Ohio

HOW TO LAY PIPE
Without Digging A Trench



The Cincinnati, Ohio, Water Department recently laid 11,459 feet of 48-inch concrete water pipe eighteen feet below the surface of the ground without moving a single shovel of dirt. This appears to be an impossible feat, but Cincinnati accomplished it by the simple expediency of using an old, abandoned Rapid Transit Tube.

From 1827 until 1895, the Miami & Erie Canal served as a vital commercial link between, first, Middletown and Cincinnati, and later, Lake Erie and Cincinnati by way of Toledo. By 1895, the canal had outlived its usefulness as a common freight carrier and was abandoned for that purpose. A few manufacturers, however, continued to move merchandise along the waterway near Cincinnati, for a purely local trade, until about 1917.

Some years later, it was decided to utilize the bed of the canal as the right-of-way for a subway. This project was nearly completed by 1925. Known as the Rapid Transit Tube, it was then covered by a parkway which still serves as a main artery linking Cincinnati with its suburbs to the north and west.

By 1956, the demand for water in the Western Hills section of Cincinnati, along with the expansion program then underway, dictated the necessity of a 48-inch water main to be laid from downtown Cincinnati to the Western Hills Pumping Station. The unused Rapid Transit Tube afforded an excellent medium for transporting the required water pipe. Not only would it eliminate the traffic congestion always resulting from open cuts in the city streets,

but it would also eliminate the usual inconvenience and loss of business by local merchants along the route. It was estimated, furthermore, that a savings of almost half a million dollars would be effected by using the subway.

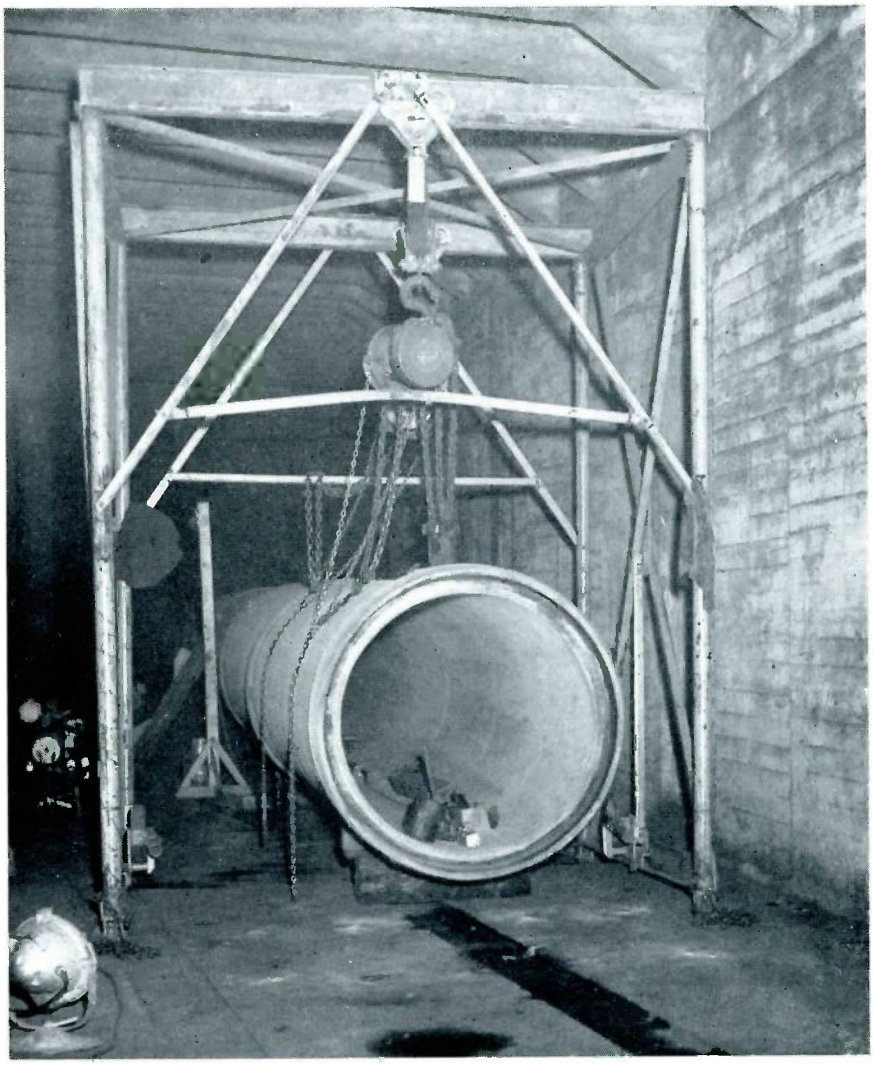
Upon inspection, the Tube was found to be in excellent condition. The City Council authorized its use for this purpose, plans were drawn, and specifications were formulated. Consulting engineers on the project were Black & Veatch of Kansas City. The entire project was under the direct supervision of William Sahnd, Superintendent of Water Works Distribution, with J. Harry Rimmer, Assistant Superintendent of Distribution, acting as field supervisor.

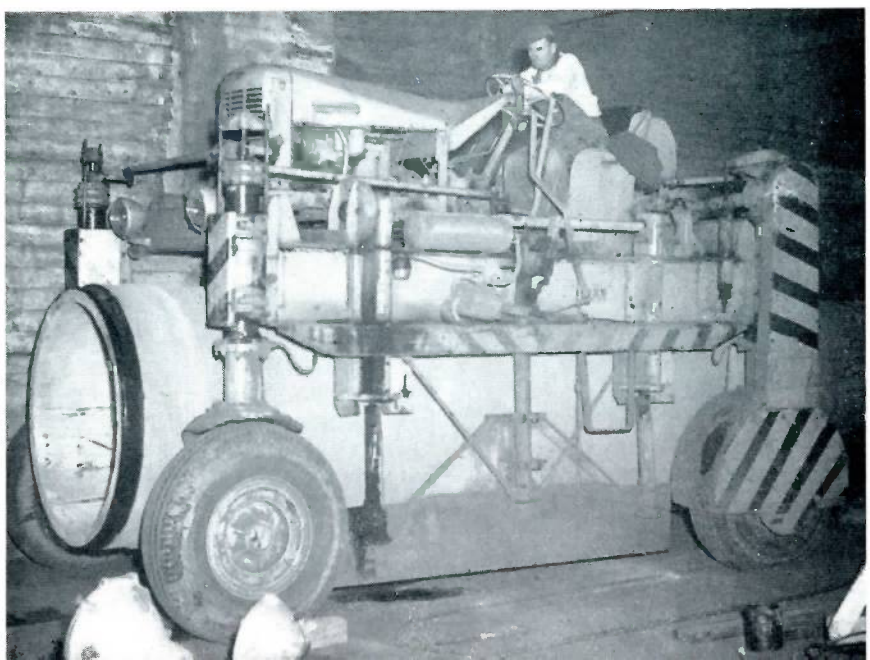
Although the Tube was dark and musty, it was in an excellent state of repair. Portable generators were brought in to supply electricity, and a special blower system was installed to freshen the air. Evidence was found that the subway had not been entirely "tenantless" over the years. There were ashes of many fires, tin cans, bottles, and even a baby buggy.

The stringers, which had originally been installed to support the rails, were removed and cut up to be used later as blocking. The 48-inch concrete pipe, with each 16-foot length weighing 11,600 pounds, was delivered and positioned by a Ross Carrier. It was then temporarily blocked until a steel derrick could be rolled into place. The pipe could then be supported with block and tackle.

There are actually two tubes in the subway system—each about twelve feet wide and separated by a concrete wall two feet thick. The Ross Carrier, after delivering a length of pipe, was forced to back out the entire length of the Tube. Materials and supplies were usually delivered through the lateral tunnel. After unloading, the trucks would continue on to a turnaround; there was no room for passing, and when two vehicles met, one had to back out.

Each length of pipe was supported by two reinforced concrete saddles which were doweled into the concrete floor of the Tube. The pipe was cradled in these saddles





ABOVE: Laying 48-inch transmission main in the Rapid Transit Tube. This view shows the derrick used to support the pipe until permanent support can be achieved. BELOW: a Ross Carrier delivers and positions the 48-inch concrete pipe, and must then back out the distance of the Tube to pick up another section.

from the spring line on one side to the spring line on the other. On the curves, the saddles were carried to the top of the pipe at the side of the thrust, with a bearing against the outside wall of the Tube. Since construction men felt there would probably be an expansion and contraction in the exposed pipe, the joints were not grouted inside and out, as is usually done. In this case, the outside of the joint was covered with a special mastic which permitted movement of the pipe and, at the same time, preserved the metal. The expansion joints in the Tube were matched with expansion joints in the pipe by means of slip joints and special couplings.

No extreme pressures were brought to bear because the deflection was so gradual. The concrete pipe actually followed the line of what would have been the outer rail, and no angle of more than five degrees was required. At one point in the route, where it was desired to make a 90 degree connection with another main, a 48-inch by 42-inch "Y" was installed. The 48-inch pipe fore and aft the"Y" was encased in solid blocks of reinforced concrete to contain the extreme pressures involved. At 55 pounds per square inch, a 48-inch water main develops almost 100,000 pounds of thrust at any given point.

Another chief advantage in the use of the Tube was the ability of workmen to proceed in any weather. The temperature inside never varied more than five degrees regardless of the exterior temperature. As the job progressed to a point where the outside wall of the Tube was exposed to the elements, the temperature changes were more drastic, but the workmen were still protected from the wind, rain and snow.

Thus, the Rapid Transit Tube afforded a neat, quick and economical way to lay a water main through the heart of downtown Cincinnati. Once again, after more than 35 years, the Miami and Erie Canal is carrying water. This fact is a tribute to the foresight and ingenuity of the personnel of the Cincinnati Water Department.

Grover Walters Retires In Fullerton, Calif.

On August 13, the Disneyland Hotel in Anaheim, Calif. was the scene of a testimonial luncheon honoring the retirement of a veteran of the waterworks industry —Grover J. Walters. Mr. Walters retired October 1 as Director of Public Works of Fullerton, Calif. The luncheon was sponsored by the Orange County Water Works group, of which Mr. Walters is president.

Appointed Director of Public Works three years ago, Mr. Walters spent most of his career with the city as Water and Sewers Superintendent. He began work with the city on November 5, 1921, a draftsman in the City Engineer's office.

At the time of his retirement, Mr. Walters was president of the Orange County Water Works Group, and secretary of the Executive Committee of the County Joint Outfall Sewer District.

He is credited with greatly aiding in the development of several waterworks organizations operating in the area today, including the Metropolitan Water District and the Orange County Water District. He has also been active in the promotion of the Feather River project.

Mr. Walters is chairman of the board of trustees and an elder of the First Christian Church, a member of the VFW, the Kiwanis Club and the Elks Lodge.

New Strides Made In De-Salting Field

A major step forward in insuring soft, fresh water supplies for naturally arid areas is now in motion, using the ocean surrounding Bermuda and the Virgin Islands as an inexhaustible well.

Making this possible is a new advance in water distillation developed by Emhart Mfg. Co.'s subsidiary, the Maxim Silencer Company of Hartford, Conn., whose sea water evaporator plants already are in wide use for drinking and boiler feed water on naval and merchant vessels of many nations.

The first plans utilizing a new thermal compression process for evaporating fresh water from salt went into operation during January at the Castle Harbour Hotel, Tucker's Town, Bermuda, and the Rockefeller-sponsored 600-acre Caneel Bay Plantation, a modern, year-round hotel in St. John.

Each unit is capable of distilling 16,000 gallons daily of highest purity water, eliminating the need for complete reliance on uncertain rainfall and water imports costing up to $20 per one thousand gallons. The plants are expected to pay for themselves through savings within three years.

Economical, efficient and quiet operation of the new-type evaporator led to its adoption by the two popular resorts. In virtually unlimited water-making capacities, Maxim units can be built for any parched shoreline area or wherever it is desirable to change brackish water into fresh water for household or industrial use. Americans average 137 gallons per day for domestic use, according to a 48-state survey by the Council of State Governments, Chicago.

Fresh water is at a premium in many such resort centers as Castle Harbour Hotel and Caneel Bay Plantation, both of which have had to build expensive catchment systems to collect and store rain water. In times of drought the reservoirs dry up, necessitating barged-in water to assure a continuous supply. Caneel Bay now is expanding its facilities approximately 50 percent, an additional reason for the evaporator installation, its management reports.

While each of the evaporators will be used only to supplement the resorts' rain water supplies, they will eliminate the need for purchasing costly fresh water. This, and other cost savings, cause Howard F. Hohl, general manager of the big Bermuda hotel, to believe that the installation ". . . will easily pay for itself in three years." In the past, the hotel has had to import several million gallons of water annually ". . . to be sure of maintaining Castle Harbour's reputation of supplying fresh water for all bathrooms and taps," Mr. Hohl said.

The two thermal compression evaporators were built at the Maxim plant in Hartford. Before shipment, they were given rigorous trials at the company's sea water distillation laboratory—the first of its kind—on the Connecticut shore.

The thermal compression system uses steam generated in an oil-fired boiler as opposed to the vapor compression method which uses a costly, difficult-to-maintain compressor. The reduction in the number of moving parts makes for quiet operation, greater economy and simplified maintenance. The Maxim unit is a self-contained "package," directly connecting the ocean and the fresh-water system, and can be operated by regular maintenance personnel.

Auxiliary use of the evaporator for heating swimming pool water in winter and all domestic hot water cuts the expense of distilling fresh water enormously.

Taking into account these supplemental uses of the Maxim plant and fuel costs, the estimate of distilling fresh water at the Bermuda hotel is considerably less than one dollar per thousand gallons, a savings of 94 percent over imported water.

At Caneel Bay, higher oil prices and restriction of the evaporator to fresh water production will reflect in somewhat greater cost per thousand gallons.

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