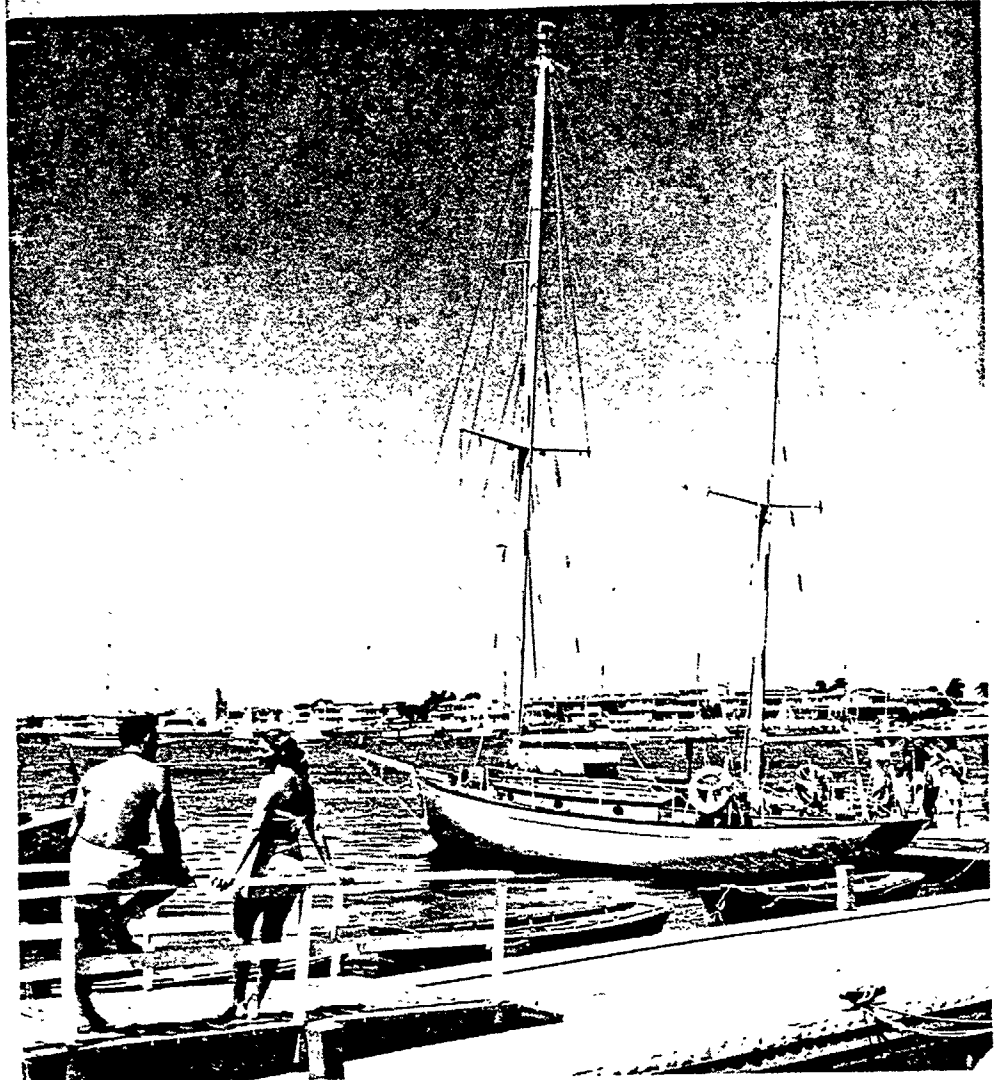


PLAINTIFF'S
EXHIBIT

JMMC-245

CAST IRON PIPE

AUGUST / SEPTEMBER 1961



MEMBERSHIP DIRECTORY

ALABAMA PIPE COMPANY: *Main Office*, Anniston, Ala.; *District Sales Offices*, Chicago, New York, Kansas City, Detroit, South Gate, Cal.

AMERICAN CAST IRON PIPE COMPANY: *Main Office*, Birmingham, Alabama; *District Sales Offices*, Birmingham, Chicago, Dallas, Kansas City, Minneapolis, New York, Cleveland, Pittsburgh, Denver, Orlando, Fla.

JAMES B. CLOW & SONS, Inc.: *Main Office*, 201-299 N. Talmian Avenue, Chicago 80, Illinois; *District Sales Offices*, Atlanta, Birmingham, Chicago, Cleveland, Columbus, Dallas, Des Moines, Detroit, Indianapolis, Milwaukee, Jackson, Miss., Kansas City, Minneapolis, Nashville, New York, Oshkosh, Pittsburgh, Ft. Lauderdale, Fla., Rochester, N.Y., South Bend.

GLAUCONIAN PIPE & FOUNDRY COMPANY: *Main Office*, Lynchburg, Virginia; *District Sales Offices*, Lynchburg, Chicago.

GRIFFIN PIPE DIVISION, GRIFFIN WHEEL COMPANY, 2601 Ninth Avenue, Council Bluffs, Iowa; *District Sales Offices*, Bensenville, Ill., St. Paul, Minn., Kansas City, Kan., Denver, Colo.

LYNCHBURG FOUNDRY COMPANY: *Main Office*, Lynchburg, Virginia; *District Sales Offices*, Lynchburg, Chicago, Cleveland, New York.

LONE STAR STEEL COMPANY: *Executive-Sales Office*, P. O. Box 12,226, Dallas 25, Texas; *District Sales Offices*, 1802 Phillower Building, Tulsa, Okla., 407 San Jacinto Building, Houston, Texas; 415 Midland Tower Building, Midland, Texas; 808 National Bank of Commerce Building, San Antonio 5, Texas; E. B. Ger-many Works, Lone Star, Texas.

MCWANE CAST IRON PIPE COMPANY: *General Offices*, Birmingham, Alabama; *District Sales Offices*, Birmingham, New York, Chicago, Kansas City, Dallas.

PACIFIC STATES CAST IRON PIPE CO.: *General Office*, Provo, Utah; *District Sales Offices*, Provo, Salt Lake City, Los Angeles, San Francisco, Portland, Ore., Denver, Seattle.

UNITED STATES PIPE & FOUNDRY CO.: *General Office*, Birmingham, Alabama; *District Sales Offices*, Abilene, Tex., Baltimore, Birmingham, Boston, Buffalo, Burlington, N. J., Decatur, Ill., Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Houston, Kansas City, Los Angeles, Minneapolis, Nashville, New York, Oklahoma City, Orlando, Fla., Pittsburgh, Portland, Ore., San Francisco, Santa Fe, Seattle, Syracuse.

SHAWMOON INDUSTRIES, INC., WARREN FOUNDRY & PIPE DIVISION: *Main Office*, 55 Liberty Street, New York, N. Y.; *District Sales Offices*, New York, Boston, Phillipsburg (New Jersey).

R. D. WOOD COMPANY: *Main Office*, Florence, New Jersey.

Indian Territory

We sometimes forget how young this country is and how recently parts of it were settled. For example, Senator Robert S. Kerr, featured speaker at the Detroit convention, was born in a log cabin in Indian Territory (now Oklahoma) 11 years before Oklahoma became a state and was admitted to the Union.

Convention Siren

No one at the recent AWWA convention in Detroit matched the entrances made by Milt Rosen, president of the St. Paul Board of Water Commissioners. A siren would sound down the hall, but instead of a fire truck, Milt would heave into sight, a look of innocence on his face and a noisemaker in his pocket shrilling a realistic warning sound.

The old red barn

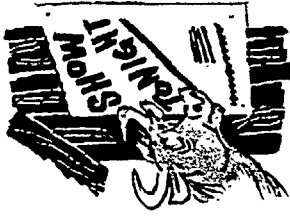
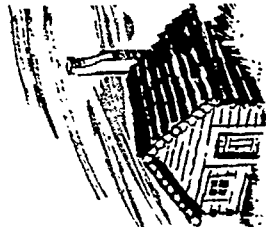
Summer theaters were a rarity 25 years ago. Today the summer or straw hat circuit numbers scores of theaters and features top stage, television and movie personalities. Turn to page 12 for a story about the state of the summer theater in 1961.

Water on the Moon

Harry N. Lowe, Jr., attracted considerable attention at Detroit with his paper "Water Supply on the Moon." He said the possibility of natural water sources on the moon may be of some hope to early lunar explorers, but that there is no conclusive evidence of the existence of such sources, and it is doubtful that they could be used in any event. Sustained manned operations on the moon will have to be based initially on a system of recycling and reuse of water, he concluded.

INDEX

Fire Fighting Depended On Luck <i>When water was scarce</i>	2	They Said It	21
The Nets Are Full <i>'Slurp boats a-coning there's dancing tonight!'</i>	6	Cast Iron Pipe Around The Country	22
Edwin B. Cobb of Metcalf & Eddy: The Story of a New England Engineer	10	Don't Do It Yourself	26
Summer Theaters Are Still Flourishing	12	Better Pressure Equals Better Protection <i>Cast Iron helps an Ohio city to guard itself</i>	28
CIPRA Adds Field Representatives	15	These Stars Still Shine	31
88 Years Old And No Sign Of Age	18	One Hundred Years Ago	32
		Answers To Your Pipe Problems	32



This is the time of year when most men feel the urge to chuck the worries of office and plant and head for the seashore or the lake ... when anyone with a boat, whether it's a skiff or kayak or magnificent yacht, is the envy of sweltering landlubbers.

The boats in this photo look especially inviting. In fact, this lovely Southern California harbor seems to have all the ingredients necessary for a good vacation spot.

Union Pacific Railroad photo



When Water Was Scarce . . .

FIRE FIGHTING DEPENDENT ON LUCK

Fire fighting in the early days of our country depended more on luck than on science. And fire fighters could do very little to improve the situation.

Ye olde colonial fireman, generally a volunteer, was as willing, anxious, and courageous as the modern smoke-eater. But he had to contend with buildings crowded one against another in narrow alleys, a widespread lack of fire prevention knowledge, primitive equipment, and, most serious of all, the uncertainty of the water supply.

If the temperature dropped below 32 degrees F., or it failed to rain for several days, the water supply would be unequal to the task of fighting flames. Usually the only water available to firemen came from wells, cisterns and nearby streams.

Fire fighting was performed by organized volunteer groups which used mainly buckets and inefficient pump engines. The limitations of both means were numerous. Bucket brigades sometimes stretched for long distances between water source and fire, resulting in much less water at the business end of the line than at the beginning. At each hand over, precious water would slosh out of the bucket.

When firemen could not get close to a building because of the heat, they would heave the water, hoping that it would find the mark. Naturally, the upper floors of a burning building were pretty much out of reach.

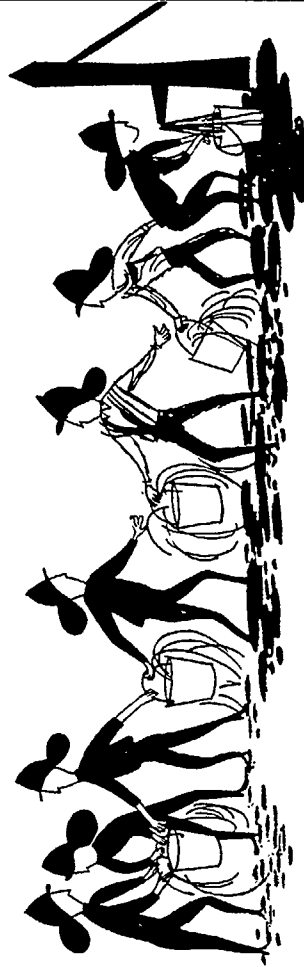
Most engines were wooden tubs on wheels with hand or foot powered pumps. A typical engine was the "Hayseed" of Hudson Company in New

York. It held 170 gallons of water and delivered its stream through a short goose-necked nozzle. Pressure was built by three men standing on treadles between horizontal bars above the deck of the tub.

Among the difficulties of this contraption was the fact that once its reservoir was dry, it was useless until it could be refilled or rolled to a creek nearby from which it could draw. Its stream did not travel far, and its force depended on the skill and endurance of the pumpers.

Since roads were rough and cobbled, firemen preferred hauling engines on sidewalks. Strollers had to jump for safety whenever an alarm was sounded. Ordinances were enacted in some cities prohibiting engines from being pulled on sidewalks after pedestrian injuries increased.

Bucket brigades, sometimes spread out over long distances between the source of water and fire, often little water was left in the bucket by the time it reached the blaze.



Fires that could not be contained quickly spread to disastrous proportions. The great Boston fire of 1711 left a hundred families homeless; the conflagration of 1776 in New York reduced 493 houses to ashes, about one-quarter of all the structures in the city.

Philadelphia was in a state of jittery anxiety in 1791 when the streets were alive with rumors of arsonists running wild. Rewards of \$1,000, an extraordinary sum in those days, were offered for the arrest of these criminals, and patrols were organized to guard the city day and night.

In 1825, Boston was again visited by flaming tragedy when 53 stores were destroyed.

Baltimore was luckier than municipalities in the north. A small river, higher in elevation than the city, was

diverted into the community in 1799, allowing firemen to raise streams of water through hoses without engines into upper level apartments.

Consequently, the Maryland city was never hit by fire as severely or as frequently as other large communities.

But it was not until 1807 that Baltimore residents received formal delivery of water in their homes. Four years later, the Baltimore Water Company had a total of 40 wooden hydrants in service.

Feeling more secure, Mayor Edward Johnson, thought "... a careful distribution of them throughout the city will certainly afford such a supply of water as to enable the many well

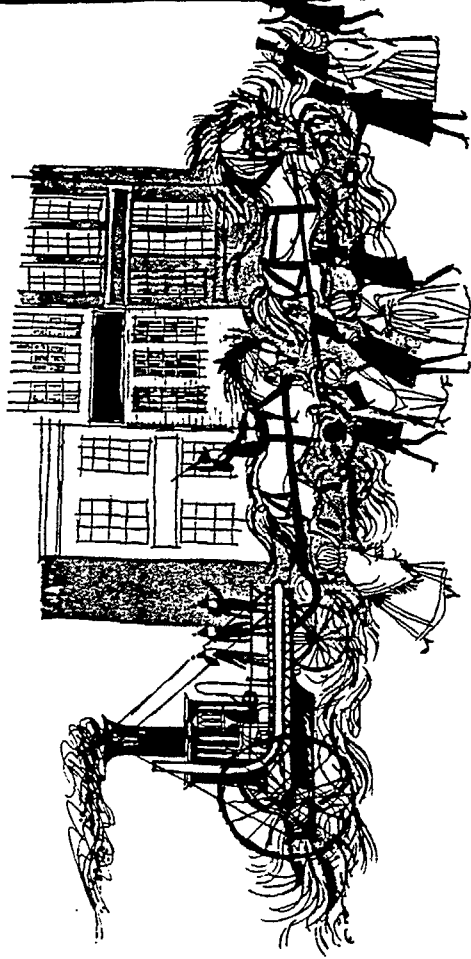
regulated fire companies already established to arrest the progress of any fire that may take place ..."

About the same time, the City Council of Boston ordered that reservoirs or cisterns be constructed in various strategic locations through the city to bolster its faltering water distribution system and provide more fire protection.

Progressive Philadelphia had fire plugs in service before 1800, while New York was not to install them until seven years later.

(The term, fire plug, was coined in the days when most water was carried in bored wood logs. At the scene of a fire, a hole was quickly drilled

All is confusion in this old print showing a fire raging in crowded city area. Building afire on right seems beyond saving, but firemen are giving it a battle. Note hydrant in foreground.



in the log to insert a pump hose or just to catch the spill-over in a bucket. To close the pipe, a wooden plug was driven into the opening. The location of these openings was marked so that if a fire occurred in the vicinity, firemen would run to the nearest "fire plug" for water.)

By 1814, the inadequacy of water available for fire fighting in New York was considered highly dangerous to the common good. Attempting to improve protection, the City Council requested various religious congregations to construct large cisterns to hold rain water falling from the roofs of their churches. When they didn't act, the Council went ahead and built them, assessing the owners of all nearby buildings and lots for the expense.

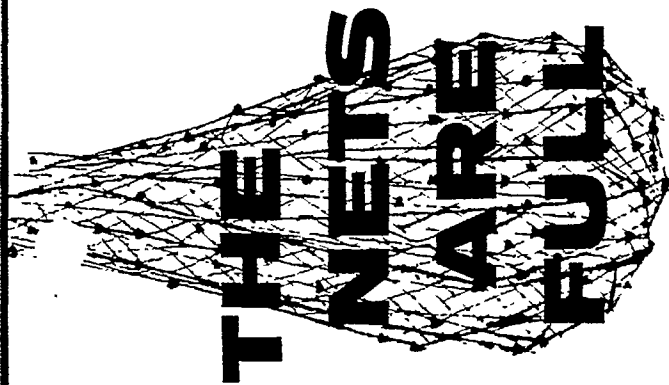
Political bickering and indecision delayed for years the solution of the expanding city's water problems. The

price of folly was dearly paid on December 17, 1835, when a catastrophic fire leveled 20 blocks of buildings, gutting 529 business establishments, destroying \$10 million worth of goods, ruining 2000 merchants, depriving 8000 clerks of jobs, and bankrupting almost all local insurance companies and their investors.

A brief comment by The Herald, a newspaper of the time, sadly explained: "The engines were not of much service. So severe was the cold."

Water from the Croton Reservoir finally arrived in 1810, insuring an excellent supply for all purposes for a number of years.

(Some information in this article was drawn from *Water for the Cities* by Nelson Manfred Blake, Syracuse University Press, 1956, and archives of the Home Insurance Co. of New York.)



*Shrimp boats are coming
there's dancing tonight*

If the words of this once popular song can be believed literally, then every night is music-filled in Morgan City, Louisiana, about 70 miles west of New Orleans.

For the cargoes of hundreds of shrimp boats that sail from this community on the Atchafalaya River keep the city prospering and expanding.

The Atchafalaya, one of the principal water roads to Louisiana's interior, leads south from Morgan City to the shrimp, fish and oil rich Gulf of Mexico. From its mouth to the city, the river has a controlling depth of 10 feet, and at Morgan City it joins a network of navigable waterways which provide simple and inexpensive transportation throughout the Gulf Coast region.

To keep abreast of the steady

growth of population and industry in this busy inland seaport, Mayor C. R. Brownell and the City Council decided in 1960, Morgan City's centennial year, to enlarge and improve the community's water and gas distribution systems.

Roes and Associates, consulting engineers of Morgan City, were retained to prepare plans and specifications, and Clement Bepouey, Jr. and Company, of New Orleans, was named contractor.

A total of 114,560 feet of Cast Iron push-on water pipe, and 7,060 feet of mechanical joint gas pipe, were installed as part of the project. In addition, a turbo generator and equipment for the steam turbine plant were purchased.

To pay for all of these improve-

ments, a \$2.1 million bond issue was floated.

Morgan City has earned its title as "Shrimp Capitol of the World" by marketing millions of pounds of shrimp annually for many years.

Its days of fame and prosperity are of comparatively recent vintage, however. In 1857, when the Opelousas Railroad was built across the swamps, linking the community to New Orleans, Morgan City was an ordinary country hamlet of 300 citizens. Then, shortly after the Civil War, the wealthy Eastern shipper, Charles Morgan, who gave his name to the town, brought the line. Taking advantage of the community's excellent natural harbor, he began developing rail and port facilities. He ran a regular service between Morgan City and docks

Part of the hundreds of shrimp and fishing boats that sail out of Morgan City. Some vessels trawl for days in the Gulf of Mexico before they haul in enough fish to make the trip profitable.

at Indianola and other points in Texas. Eventually, he had a channel dredged from the river mouth down below Morgan City southwest to the west end of the broad shell reef which stretched across Atchafalaya Bay. This provided safe passage for deeper draft vessels from the Gulf of Mexico to the community, and as a result, Morgan City became the second seaport in the state.

Small shrimp and fish had been taken from the Atchafalaya and thoroughly enjoyed by the natives since Indians roamed the area. But down through the decades, shrimp production and use had remained about the same until 1933.

In that year, a shrimperman from another port, equipped with a bigger trawler than those usually found in



A Cast Iron gas main lowered in place. 14,500 feet of water pipe were laid also.



Workman tightens mechanical joint on 4" gas pipe. 7000 feet of gas lines were installed.

the area, dated to venture out about 30 miles in the Gulf. When he returned, to the envy and astonishment of the natives, he had 50 barrels of large sea shrimp.

By 1937 Morgan City was a boom town. The discovery of the delectable jumbo shrimp in the deeper offshore waters brought a tremendous boost to the local shrimp industry. Shrimpers arrived from other states: first individually, then fleet by fleet. Families soon followed. New names, new faces, new accents, and new industries settled in Morgan City and Berwick, its neighbor city, and overflowed to Patterson, seven miles west. Today, Morgan City has a population of 13,500, while 1000 people live in adjacent areas that were unpopulated only six years ago.

Fishing vessels grew larger in order to trawl the farthest reaches of the Gulf and carry bigger loads. Naturally, ship yards for building and maintenance sprouted all over the bay. Developments in quick freezing, processing and shipping allowed shrimp to arrive fresh in any month, any-

where in the country, assuring shrimpers a year-round market.

In 1938, the first offshore oil well was drilled in the Gulf and eight years later huge reserves of oil and gas were discovered. This important find attracted 13 major oil firms to locate bases in Morgan City, which then also became the "Gateway to the Tidelands."

Another profitable natural resource at this port is the seemingly inexhaustible supply of calcium carbonate in the form of shells.

An annual event of great significance and pleasure for residents of Morgan City is the shrimp festival and blessing of the fleet. Conducted by the Catholic Church and joined by men of all faiths, the ceremony beseeches God to protect the men and boats at sea and to grant them a good harvest.

The scene is a colorful one and draws tourists by the thousands. All boats are decorated and lined up at anchor to receive the benediction as the clergy and altar boys sail past them on the flagship. Then follows

a "Grand March" of vessels, speed boat races, a coronation ball, parade, and various entertainments.

Joe Cefalu is utility plant superintendent in Morgan City, and S. J. Morell is city engineer and manager.

Prosperity was not a gift handed to the men who do - and must go down to the sea again.

S. J. Morell, city engineer, and Joe Cefalu, utility plant superintendent, stand behind Mayor C. R. Brownell while bids are read. Expansion cost \$2.1 million, an amount raised by bonds.



Edwin D. Cobb, of Metcalf & Eddy:

THE STORY OF A NEW ENGLAND ENGINEER

"When I first became a partner in Metcalf & Eddy, I worked my head off and felt I had to have a finger in every detail," Edwin B. Cobb said recently.

"But I have learned from experience that it is better to turn many things over to subordinates. The secret is to be willing to accept their mistakes as if they were your own. Once you get yourself in that frame of mind, you can survive the pace."

His reliance on delegating responsibility and giving people their head has enabled Edwin Cobb, a calm, highly competent New England engineer, to handle a great number of engineering projects through the years, plus a variety of outside activities. His mark has been left on important water and sewage projects in many states.

Edwin Cobb believes one of the biggest problems confronting the water works industry is how to attract the right personnel. Most superintendents are not paid enough to make the jobs really inviting, he says, and of course inadequate pay at the top level is reflected all down the line.

"The increasing tendency towards instrumentation aggravates the situation," he states. "It requires a pretty good man to maintain all these automatic devices. Often he wants more pay than the superintendent is receiving--and so you're in trouble."

Another problem is waste. "Something should be done to control excessive use of water," he says, but frankly states he doesn't know exactly what the answer is. "Perhaps some form of rationing is required."

Some thought should also be given

to pipeline design, the Metcalf & Eddy partner adds, so that various types of material can be presented on an equal footing. "For example, there seem to be differences in how safety factors are expressed, and consequently there is considerable difficulty in obtaining fair competition between varying types of materials."

Mr. Cobb also says it is becoming increasingly difficult to obtain quality products under the legal restrictions on competitive bidding for public works. "Where we can we must provide good specifications so that bids will be on the basis of equal quality," he declares. "This is the aim of Sectional Committee A21 for Cast Iron Pipe and Fittings. (Mr. Cobb was recently named chairman of this important A.S.A. committee.)

Edwin Cobb, Metcalf & Eddy partner, has been with this Boston firm for 21 years.



Edwin Cobb was born in Newport, R.I., and graduated from Northeastern University in 1929 with a civil engineering degree. From 1948 to 1951, he attended the evening graduate division of this school for advanced mathematics and soil mechanics.

He started his professional career in 1926 in Framingham, Mass., under the cooperative work plan at Northeastern, working with J. J. Van Valkenburg, one of New England's early sanitary engineers.

During the 1930's, he moved along through several jobs, and gained experience on numerous water and sewage projects.

In 1940 he joined Metcalf & Eddy, of Boston, one of the country's best-known engineering firms. Metcalf & Eddy operates across the United States and in foreign lands as well. In subsequent years, Edwin Cobb traveled widely for the firm and engaged in a great variety of tasks. His work included preliminary design of the Boston Metropolitan Sewage Works, design of the Army air base at Bermuda, and designs for utilities for Army air bases in New England and the Carolinas.

In 1943 he joined the U. S. Navy Civil Engineer Corps. As a Lieutenant j.g., he served as executive officer for a construction battalion maintenance unit on Canton Island in the Central Pacific. Then, promoted to Lieutenant, he worked on a number of water and sewage projects in the Central Pacific and on the China Coast.

The far-flung assignments continued when he rejoined Metcalf & Eddy, in 1946. He returned as project

engineer, and became a partner in 1953. Edwin Cobb has been in charge of such projects for the firm as the general supervision of construction phase of the Allegheny County Sanitary Authority sewage works in Pennsylvania, preliminary design of the Lake Huron supply for Flint, Mich., design and supervision of construction on water works improvements for Wilmington, Del., White Plains, N. Y., and Groton, Conn.

Currently he is working on a \$17-million improvement program for the Monroe County Water Authority, serving suburban Rochester, N. Y.

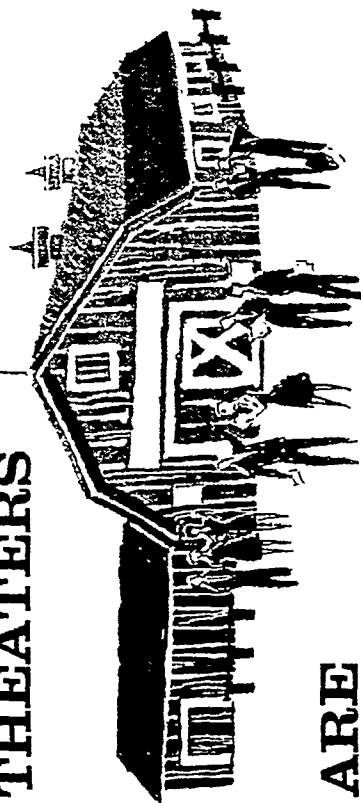
Mr. Cobb lives in Annisquam (Gloucester), Mass. He is married, has a married daughter and a grandson.

About five years ago he bought a sailboat, and after one lesson in sailing, proceeded to teach himself. Now one of his chief hobbies is sailboat racing. "I'm usually one of the also-rans," he says, "but I have a lot of fun."

Like so many top people in the engineering profession, he believes in making extra-curricular contributions to his chosen field.

He is a long-time member of AWWA, a fellow of the American Society of Civil Engineers and a diplomate of the American Academy of Sanitary Engineers. He is also a member of the Boston Society of Civil Engineers, which he served as president in 1955-56, the Engineering Societies of New England, of which he is currently treasurer, the New England Water Works Association, the Institute of Water Engineers (British) and several professional societies.

SUMMER THEATERS



ARE STILL FLOURISHING

For nine months of the year, from fall through spring, it is practically impossible to see a legitimate drama or musical show, with name performers, in any but the nation's largest cities.

Come summer, however, and the top stars of Broadway, Hollywood and television perform in the most unlikely places--in made-over barns and under tents in small towns across the country. Today there are few first-rate resort areas that cannot point to at least one summer theater within easy driving distance.

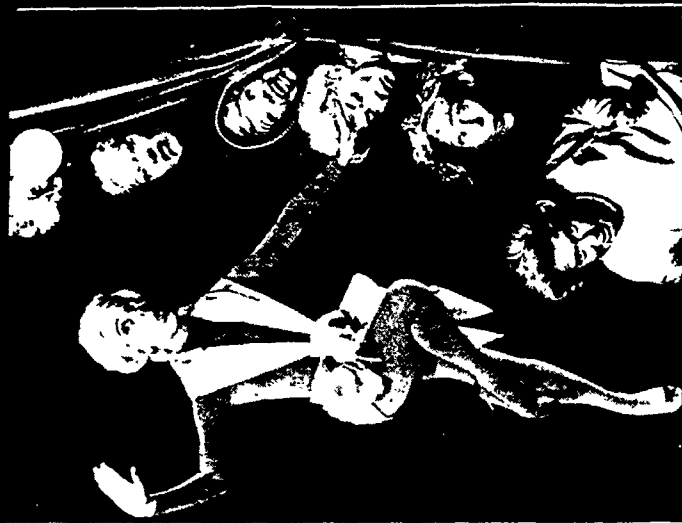
There are summer theaters in Nyack, N. Y., Haddonfield, N. J., Mount Airy, N. C., Ivoryton, Conn., Stockbridge, Mass., Ardentown, Del., Bradenton, Fla., Abingdon, Va., Cherokee, N. C., Hardstown, Ky., and in scores of other towns and cities, north, south, east and west.

The crowds are smartly-dressed at most of these theaters, relaxed, out for a good time and not in a critical mood. As a result, only musicals and comedies usually make the straw hat circuit. Serious dramas are generally not well received by easy-going vacationers.

It used to be that summer theaters were proving grounds for youngsters fresh out of dramatic school. Fledgling performers were offered a chance to improve their ability before audiences whose artistic standards were agreeably relaxed.

Today the summer theater circuit has been influenced by "creeping professionalism." This means a growing number of well-known stars are now making the trek across the land each summer, playing a few shows in one town, then moving on to the next.

Audiences themselves precipitated



Vivacious star, Carol Channing, cavorts in "Show Girl" on the summer theater circuit.



Lovely Elaine Madlin and Hawaiian children are shown in scene from the Guy Lombardo production, "Paradise Island," playing all summer at Jones Beach Marine Theater.



Westbury Music Fair on Long Island is a tent with a circular stage in the center; seats, 2200.

the invasion by flocking to see big name performers while ignoring lesser known names. Now, a popular television entertainer or movie star will almost certainly be a big draw, regardless of the overall quality of the presentation in which he is starring.

This season, for example, Myrna Loy and Claude Dauphin will be seen in "The Marriage Go-Round," Faye Emerson and Reginald Gardiner in "The Pleasure of His Company," Julia Meade and Orson Bean in "Send Me No Flowers," June Wyatt in "O Mistress Mine" and Herbert Marshall in "A Majority of One."

Other shows which will tour as packages are "Sound of Music" with Florence Henderson, "Period of Adjustment" with Dane Clark, "Bell, Book and Candle" with Ginger Rogers, "Under the Yum Yum Tree" with Daren McGavin, "Send Me No Flowers" with David Wayne and "Gentlemen Prefer Blondes" with Jane Morgan.

Individual playhouses could not afford to put together a new show with high-priced stars every week or two. So groups of producers have banded together to form associations to create "package shows." These are productions which make the rounds of sev-

eral theaters with the same cast, spreading the benefit of the star's drawing power, while sharing the heavy cost of production.

"For the past several years the number of summer playhouses has remained more or less constant," says Charles Mooney, managing director of the Cape Playhouse on Cape Cod. While some companies have gone out of business, new ones have taken their places, not necessarily in the same location.

Mr. Mooney points out that summer theater operators face many problems. For one thing, operating expenses are out of line, considering the amount of return that can be expected. About two-thirds of gross receipts are consumed by salaries alone.

Then, too, most summer theaters operate for only a short season and run the hazards of a seasonal business. "A cool, rainy summer can be murder," says Mr. Mooney.

In spite of all these difficulties, some playhouses have been in business for a long time. One at Skowhegan, Me., has been staging for 50 years, while the theater at Ogunquit, Me., is 35 years old.

Given an even break, the show will go on.

CIPRA adds field men



John J. Caton

The appointment of two new field representatives for the Cast Iron Pipe Research Association was announced recently by Thomas F. Wolfe, managing director.

John J. Caton will represent the association in New England and the northern Middle Atlantic States. His headquarters will be in Phillipsburg, N. J.

Mr. Caton was formerly associated with one of the member companies of the Cast Iron Pipe Research Association. He has also served as sales promotion manager for Houdaille Industries.

A native of Phillipsburg, he graduated from Philadelphia Textile Institute in 1925 and was connected with the textile industry for the next 12 years. After a period in business for himself, he became connected with a pipe manufacturer in 1940. He has spent most of the years since in the water works field.

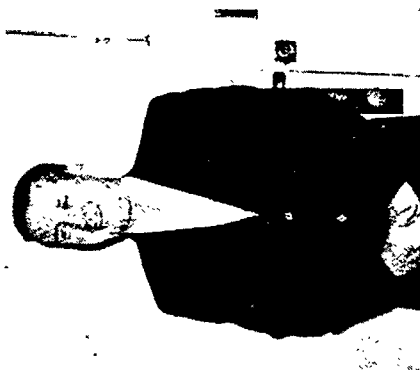
Mr. Caton is president of Harkers Hollow Golf Club in Phillipsburg, and former president of the Phillipsburg Chamber of Commerce.

Thomas B. Donoho will represent the association in Texas, Oklahoma, Arkansas and Louisiana, and make his headquarters in Dallas.

A native of Gallatin, Tenn., Mr. Donoho graduated from the University of Tennessee in 1936 with a civil engineering degree. After working with TVA for four years as a junior hydraulics engineer, he spent eight years with the U.S. Army Corps of Engineers, attaining the rank of Lt. Colonel, and commanding an engineers' combat battalion.

Since 1918 he has been in the consulting engineering field. For the past eight years, he has conducted his own business, with an office in San Antonio.

Thomas B. Donoho





Rugged, every inch of the way

Cast iron pipe was made for tough jobs such as sewage disposal. It resists attack by sewage and sewage gases that require expensive linings in other types of pipe; it keeps sewage flowing smoothly.

Cast iron pipe performs a tough job. It stands up to external and internal loads, shocks and pressures. Bottle-tight joints *eliminate* seepage and infiltration at the most vulnerable points of your system.

Cast iron pipe is rugged every inch of the way ... and will remain so for over a century.



CAST IRON PIPE
THE MARK OF PIPE THAT LASTS OVER 100 YEARS

CAST IRON PIPE RESEARCH ASSOCIATION
Thos. F. Wolfe, Managing Director
3440 Prudential Plaza, Chicago 1, Illinois

88 YEARS OLD AND NO SIGN OF AGE

The year was 1873. The first railroad in Texas had been in operation a mere 20 years and the Civil War had ended only eight years before. The Lone Star State was indeed still in its infancy.

1873 was the year barbed wire was invented, and in this same year, the Texas & Pacific Railroad pushed west to Colorado City. The long cattle drives to the north and east were no longer necessary.

Like the setting from a TV western, steers poured into this West Texas railhead by the thousands for Colorado City was the jumping off spot for the journey to the big city packing plants. And when the cattle-car loading was over, the cattle barons would reward the cowhands with a celebration that sometimes lasted for days. Gamblers, piano players, and dance hall girls had to work in shifts to keep up with the cattlemen.

But there was more to Colorado

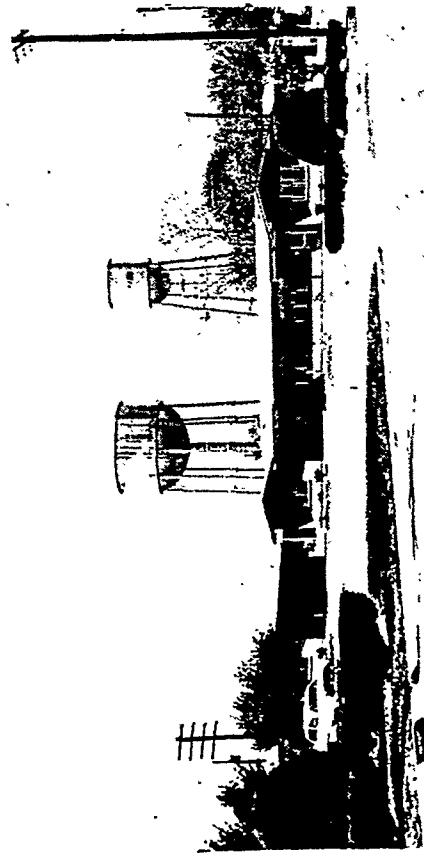
City than lusty roundup celebrations. There were settlers who had come to this land to stay -- rugged men who were looking to the future.

So it was also in 1873 that several miles of 8-inch Cast Iron water mains were first laid in bustling Colorado City. *Today, 88 years later, this same pipe is still in excellent condition and giving dependable service!*

The recent completion of a Federal Housing project led to the necessity of condemnation proceedings against a "squatter" who 15 years ago chose the middle of a proposed street right-of-way as the spot to erect his shanty. Further investigation of old plats showed that one of the 8-inch Cast Iron water mains laid in 1873 was still in service on this street.

Curiosity prompted Mayor G. R. "Bob" Robinson and City Manager Earl Keaton to have a section of this water line uncovered. From all outward appearances, the 88-year old

City pumps over 600 million gallons of water yearly. 96% of system is composed of Cast Iron.



Eight-inch Cast Iron Pipe, laid in 1873 in Colorado City, is still giving dependable service.

Cast Iron Pipe showed absolutely no signs of deterioration; so a joint of the pipe was removed. A very light alkaline scale less than 1/16 of an inch in thickness lined the inside of the pipe, but when it was removed, the Cast Iron itself still had a shining black surface with no rust or pitting whatsoever.

As a final test, officials decided to cut a section of this pipe; perhaps the Cast Iron had weakened in other ways. Much to their amazement, two men worked on this section of pipe with a pipe-cutter for nearly an hour and had barely dented the surface. A sledge hammer finally broke the pipe,

but again, the Cast Iron looked "foundry fresh." From all indications, it will still look that way 88 years from now!

This outstanding record of trouble-free performance of Cast Iron pressure pipe is undoubtedly the primary reason why 96% of Colorado City's water system is composed of Cast Iron.

Or to put it another way, approximately 25 out of 26 miles of the system consists of reliable Cast Iron pressure pipe.

With several industries in the immediate vicinity, including an oil refinery, an asphalt plant, and a regional power plant, Colorado City

THEY SAID IT



Earl Keaton is city manager of Colorado City, a progressive, growing community in West Texas.

pumps over 600 million gallons of water a year!

This is broken down as follows: approximately 350 million gallons of treated water is used by Colorado City, and 50 million by Westbrook, about 20 miles to the south. The other 200 million gallons is raw water used by industry in the area for cooling purposes.

This is quite an impressive record for a West Texas town of around 6,500 people.

There are three rather large lakes in the immediate vicinity. Lake Colorado City has been developed on Morgan Creek with a capacity of 31,000 acre feet. The Champion Creek Reservoir holds 42,000 acre feet, and approximately 20 miles to the north, Lake L. B. Thomas has a capacity of 205,000 acre feet.

In addition to the surface supply, there are 18 wells approximately 200 feet deep that are now kept in readiness on a standby basis.

The filter plant located in the southwest part of Colorado City pro-

vides complete treatment in removal of turbidity as well as purification of the lake water. A 16-inch Cast Iron main is used to carry the treated water from the filter plant to the distribution system.

The water treatment plant is sufficient in size to produce in excess of 2 million gallons per day and can turn out as high as 3 million gallons per day in case of an emergency.

Elevated storage facilities consist of two tanks in the north end of the distribution system, one with a capacity of 500,000 gallons and the other holding 100,000 gallons. In the southeast portion of the system, there is an elevated standpipe with a capacity of 100,000 gallons. It is to this standpipe that the 8-inch Cast Iron main laid in 1873 is connected and still serving faithfully.

There is no doubt about it... the progressive little West Texas town of Colorado City has changed materially in the past 88 years, even though the old Cast Iron main shows no sign of change!

"There is just no way around it—we will have to devote more and more of our stream flow resources in this country to carry away pollution, and that is why, in this present session of Congress, we are going to take action which will provide for a new vigor in our federal programs of stream flow pollution abatement..."

"We must face up to the fact that in the future a great many, if not most of the water needs of the nation are going to have to be met with re-used water. Americans will be drinking, cooking with, bathing in, and otherwise using, second-hand or third-hand water. This means we will have to use our water and purify it not once or twice but perhaps 3 or 4 times..."

"Weather technicians and scientists repeatedly warned our Select Committee that droughts are recurring. These experts established a basis for their prediction that the late 60's or early 70's would probably see drought more widespread and acute than that of either the 30's or 50's."

Senator Robert S. Kerr
Paper delivered at AWWA
Detroit Convention

"Although a thousand communities in the United States may have to restrict the use of water this summer, the reason will not be lack of water—it will most often be the lack of adequate piping and other distribution facilities to deliver all the water the public needs, when and where it needs it."

C. F. Weitz, Past Pres.
AWWA

"On the one hand the committee feels the amount that communities are willing to pay for good stored water transmitted over long distances will gradually diminish as familiarity with the use of demineralized brackish water becomes more general; on the other the committee warns that saline-water conversion is not the only answer to all hopes for adequate water supplies in the future. Research and development must continue on a broad scale in many other directions."

Abstract of report of AWWA Task Group 2770 P-Saline Water Conversion, presented at Detroit convention by Rolf Eliassen, professor of sanitary engineering, M.I.T.

"How... can water problems of this humid area (Michigan) remotely resemble those of the American Southwest? The water works superintendent of a small Michigan city could answer, even if his town is only 10 miles from Lake Michigan's 1,000-plus cubic miles of fresh, clean water. The 'Big Lake' is too far away and he must be content with local resources just as much as his western counterpart. Michigan has problems of low stream flow and floods, of pollution and water rights, of drainage and erosion --even of salt-water! Possibly its greatest water resources problem, and the one most widely shared among all states, is the failure of the public to recognize signs of trouble and to act timely and wisely toward its solutions."

Norman Billings, Michigan
Water Resources Commission
at AWWA Detroit Convention

Across the Country with

WILLISTON, NORTH DAKOTA

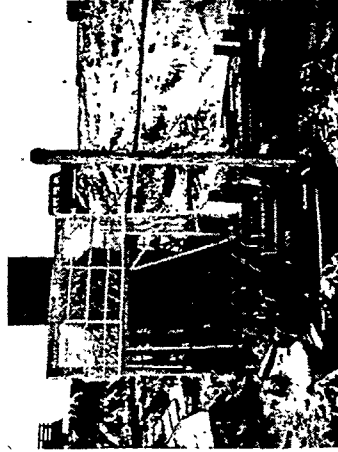
Increasing population and a rising per capita consumption of water emphasized to officials of Williston, North Dakota, the need for a larger water treatment plant.

A site for a 6 mgd plant was selected four miles up the Missouri River from the city near the Lewis and Clark Highway bridge. At this location, the variable flow of the Missouri would present the fewest problems.

For the intakes of four parallel lines, each 700 feet long, 2800 feet of 20" Cast Iron Pipe was chosen for its liberal deflections and ruggedness.

The problem was to install piping through 650 feet of sand bar on the near side of the river into the main channel. The piping had to be adequately supported in the event the main channel should ever move toward the near bank. It was also designed to withstand the terrific pressures of the spring break-up of ice.

Before any pipe was laid, a horse-shoe shaped coffer dam was constructed around the entire working area. Then a single stage well point



system was installed. Three dewatering pumps were used. Through this system, it was possible to lower the water level within the dam area so that operations could be conducted in a relatively dry location.

The inlet lines were installed on wood pile bents, one bent per length of pipe. Each pipe was supported two feet from the bent by 4" by 12" timbers bolted to the piles.



CAST IRON



VINELAND, NEW JERSEY

The water system of Vineland, New Jersey, has been growing in leaps and bounds to keep up with the city's expansion.

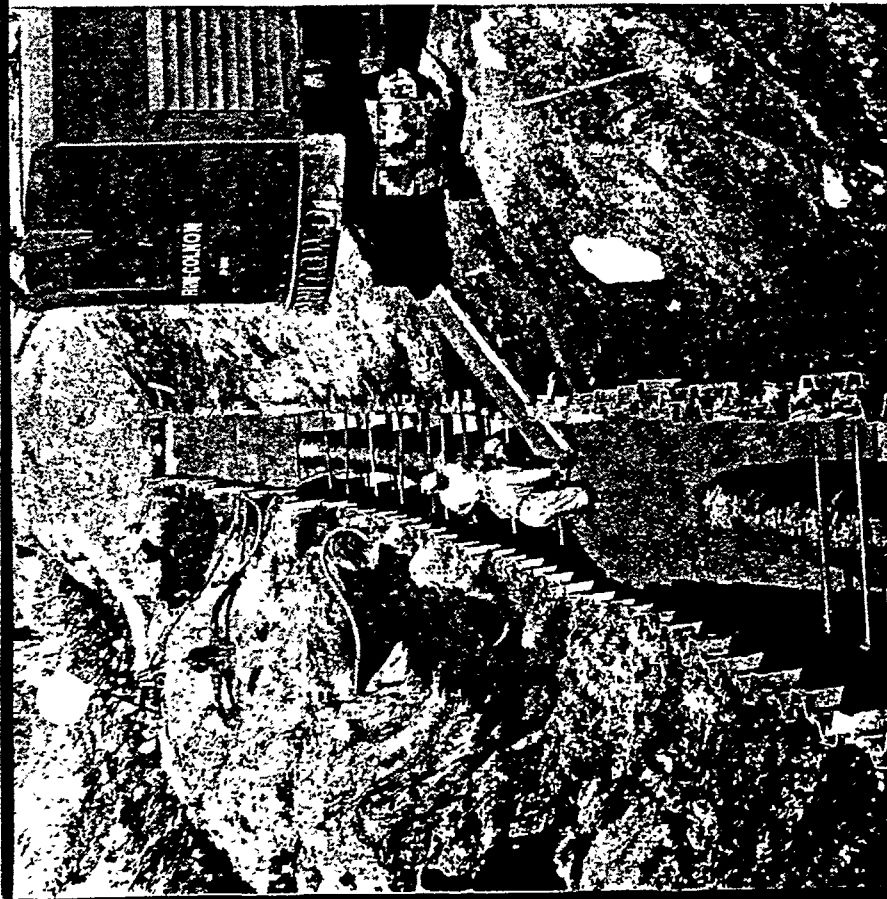
In 1951, the city had 63 miles of water mains. Today, Vineland supplies its 38,000 residents and several industries through 105 miles of lines.

The most recent additions of Cast Iron water pipe to this expanding system totaled 13,700 feet of the push-on joint type. This included 100 feet of 4"; 19,800 feet of 6"; 11,300 feet of 8"; 6,600 feet of 10"; and 2,600 feet of 12".

Vineland draws its water from six 24-inch casing wells, ranging in depth from 110 to 170 feet. Their capacity is 8.6 million gallons daily, an amount well in excess of the maximum daily requirement of 4.8 millions. In 1960 the average daily consumption was 2.9 million gallons.

Vineland is an important poultry center. Large quantities of chickens are raised in the area, mainly for egg production.

Among the area's chief manufactured products are glass, machinery, metal products, and clothing.



EAST ALTON, ILLINOIS

Industry and local government in East Alton have cooperatively solved their water supply problem to their mutual satisfaction.

The Village of East Alton had obtained its water from deep wells, but in recent years, the water table for these wells had dropped considerably, indicating an imminent shortage.

The problem was closely analyzed by the huge Olin Mathieson Chemical Corporation plant at East Alton, which had drawn water from the Mississippi River for many years, and it was agreed to install a Ranney Method Water Collector at the river. A large diameter supply line was run from this installation to the plant, and was

also connected to the East Alton distribution system.

Approximately 18,000 feet of Cast Iron, cement-lined, push-on joint mains were used: 12,104 feet of 36"; 1808 feet of 30"; 4032 feet of 24".

The pipe was installed with comparative ease and speed, even though formidable obstacles were encountered. Pipe had to be laid through three levees, under heavily traveled transcontinental highways, the main line tracks of several railroads, streets, and around existing lines.

When the line was in place, it was tested at 125 psi without leakage and is now in service at 80 psi operating pressure.

LOS ANGELES, CALIFORNIA

Greatly increased air traffic and the arrival of the jet age have necessitated a large expansion program at Los Angeles International Airport.

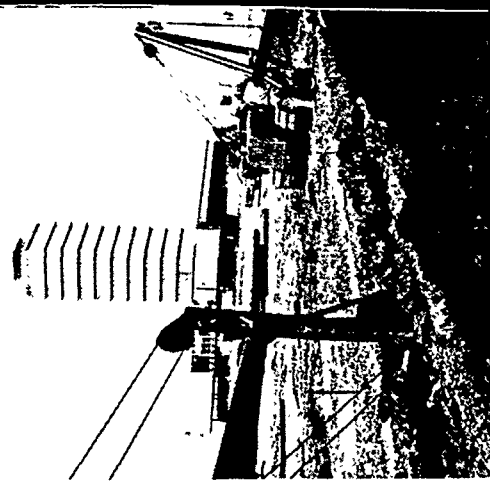
The modernizing project cost \$16 million and includes runway and taxiway extensions, a new control tower and administration building, central service and utilities structures, a 5000 car underground parking area, and terminal buildings consisting of a central theme structure, six ticketing and seven satellite (individual airline) buildings.

Extensive underground utility facilities service the airport. Dependable Cast Iron water mains were laid to provide fire protection for the tremendous investment represented by the buildings, planes and automobiles concentrated in the terminal area. Besides fire protection, separate Cast Iron mains were installed for storm drains and sewers that are subjected to severe service conditions.

A total of 41,480 feet of Cast Iron mechanical joint pipe with cement lin-

ing was used:

For water lines — 2600 feet of 6"; 4000 feet of 8"; and 19,400 feet of 10"; for storm drains — 100 feet of 4"; 1880 feet of 6"; 3200 feet of 8"; 2630 feet of 10"; and 800 feet of 12"; and for sewer lines — 5900 feet of 8"; and 1000 feet of 10".



DON'T DO IT YOURSELF

(This article, dealing with the function of lawyers and the importance of a will, is based on an award winning series which originally appeared in The Southern Telephone News, employee magazine of the Southern Bell Telephone and Telegraph Company. We wish to express our gratitude to Southern Bell for allowing us to draw from this series.)

A common misunderstanding about lawyers is that they should be consulted only when you are in trouble. This belief can be harmful, for lawyers, like physicians, are specialists in the prevention of trouble.

A lawyer can assist you in any action that involves the law. He can write contracts and deeds; he may be able to settle disputes out of court with savings in money and inconvenience;

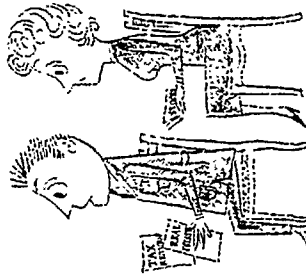
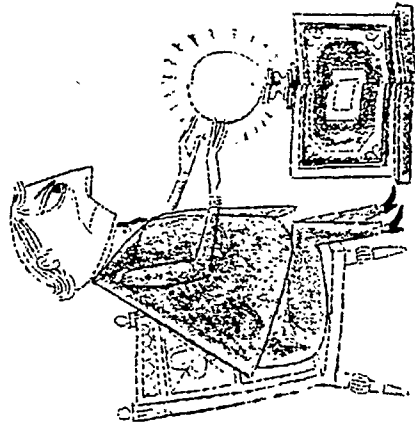
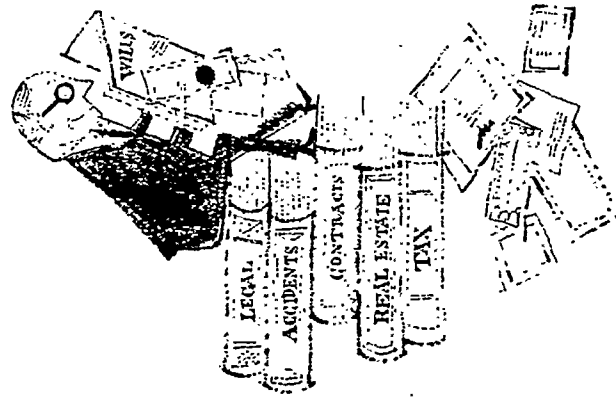
he can represent you in civil courts where difficulties about property, money damages and family relationships are determined.

A lawyer can help you in buying or selling real estate; in entering contracts; in tax and estate problems; in accidents causing damage to persons or property; in making a will; in property line disputes; and in many other ways.

When you ask a lawyer's advice, you should expect to pay him for the time and effort expended in giving you expert advice. When he bills you, he is charging for a conclusion reached after extensive research into the law affecting your case, not for a mere offhand opinion.

Fees depend on the nature of the individual problem. Generally, there are set fees for preparing written instruments such as deeds and mortgages. However, it may be impossible to predict how much work will have to be done, so often a fee cannot be pre-established.

Too often lawyers are thought of as last resorts to be consulted when litigation seems likely. Many disputes could be avoided at a small cost by obtaining legal counsel as to the course to pursue, or through agreements and contracts correctly and properly drawn and phrased.



the person or institution in which he has special confidence. In many instances, a will permits legitimate savings in taxes, thereby preserving more of the estate for the beneficiaries.

Consequently, drafting a will is a very important matter requiring professional judgment which can be acquired solely through years of training, experience, and study. The lawyer knows and understands the special language used in wills as well as the technical provisions of the law. Only he can avoid the innumerable pitfalls and advise the best course suited to each situation.

The practice of using form wills or copying the wills of others is imprudent. The immediate saving is not worth the inherent risks. After all, what is at stake is the disposition of the fruits of a life's work.

If you consider that a will is the instrument by which you provide for the future welfare of your family, you will accord it the careful consideration it deserves - *now*.

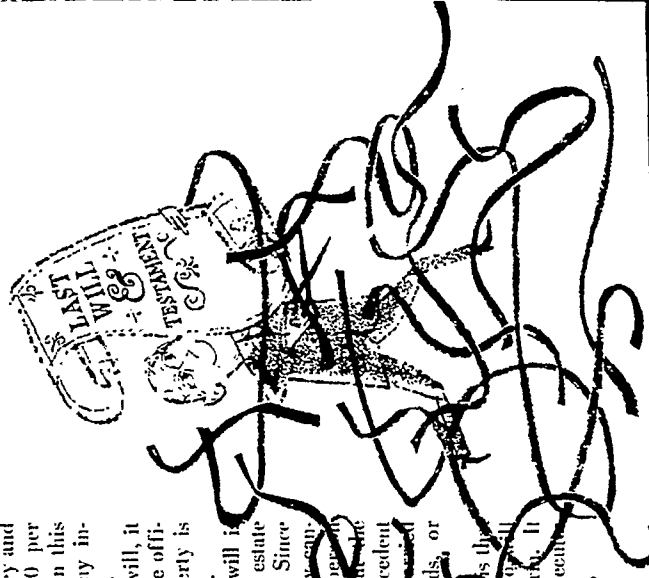
Most lawyers have experienced the futility of trying to protect a client who has carelessly signed away his rights without ever obtaining legal advice. A little time taken to secure guidance *before* you enter a business transaction will, in the long run, save time, money and worry.

One area where expert legal opinion should definitely be sought is in the matter of making wills. Most people spend a large part of their lives in activities designed to produce money and acquire property. But about 50 per cent of those owning property in this country die without leaving any instructions regarding their estate.

When an individual writes a will, it simply means he wants to declare officially and clearly how his property is to be distributed upon his death.

The alternative to leaving a will is to have the state distribute the estate through its inheritance statutes. Since these apply to all situations, they cannot reflect the wishes of every person or the needs of the family. But the law is the law, and when the decedent leaves no will the rules must be followed regardless of wishes, needs, or hardships.

The main advantage of a will is that it allows a person to decide how he will get his property, and in what form. It also allows him to name an executor



Cast Iron Helps an Ohio City to Guard Itself

BETTER PRESSURE =

BETTER PROTECTION

Fire underwriters as well as water department officials were concerned about the water pressure in the downtown business area of Portsmouth, Ohio.

Before stores and other buildings could qualify for a higher category of insurance, pressure in a number of strategically located hydrants had to be increased.

The opportunity to do this presented itself and was quickly acted upon. In connection with widening and building another access to Route 52, some 1500 feet of 16" water mains, extend-

ing through the downtown section, had to be lowered. These mains, constructed of Cast Iron bell and spigot pipe, had been installed by the Federal Work Projects Administration in the 1930s.

Howard C. Growdon, director of Portsmouth's Water & Sewage Department, along with Alfred Le Feber & Associates, consulting engineers of Cincinnati, decided to replace the 16" line with 24" Cast Iron of the push-on joint type. Not only would the larger mains furnish increased pressure downtown, but also elsewhere in the sys-

Workmen unload section of 24" Cast Iron push-on type pipe recently installed in Portsmouth.



tem, both to meet present needs and provide for future requirements.

A total of 3125 feet of Cast Iron was purchased and installed: 525' of 30"; 1950' of 24"; and 950' of 16".

Generally, the improvement means that in the business center of the city, 24" has replaced 16" pipe, while around this district and branching off into the residential neighborhoods, 12" pipe has taken over for 10". The new 30" pipe will be used in the treatment plant.

"The old 16" Cast Iron was salvaged and will be reused," says Director Growdon. "It looks very clean inside and out and seems to be in very good shape." All water lines in the city are Cast Iron.

Portsmouth, the southern terminus in the state of the occasionally malicious Ohio River, is a light stone's throw from Kentucky. Geographically, the town is odd-shaped—10 miles long and two miles wide. It has 31,000 residents. Steel, shoes and fire bricks are the chief products made in Portsmouth plants, and farming is also important to the local economy. North of the city the Atomic Energy Commission operates a billion dollar plant.

An unusual feature of the municipally owned water system is that it supplies an additional 30,000 residents of the neighboring communities of New Boston, North Portsmouth, East Portsmouth, Wheelersburg, and Rosemount Road. The supply comes from the Ohio River.

The filtration plant has an eight-million-gallon capacity and there are



Howard C. Growdon, director of water and sewage department, recalls flood of '37.

plans to increase it to 12 million gallons with the arrival of new industry. Portsmouth is thought to be unique for its size in that it has two reservoirs with a total storage capacity of 30 million gallons.

This large reserve has served a good purpose in the past when the rain swollen Ohio has burst over its banks.

In 1937 the river crested at 71 feet the worst flood in the city's recent history causing the treatment plant to be shut down from January 20 to February 10. When the water, then at the 61-foot mark, reached the windings in motors at the pumping station, the plant was closed for safety.

Only 18 inches of water were left in the Portsmouth reservoir when water subsided enough to permit resumption of pumping.

To guard the town against the river's rampages, a flood wall to protect against a 77-foot river stage has been built along the bank. In some places hydraulic fill is used; in others, concrete; and in still other places, both. So far this year water has come up only to the 45-foot level, well below the danger mark.

Backfill being tamped around new pipe. Installation of push-on pipe went smoothly.

Length of 30-year-old 12" cast iron bell and spigot pipe is in excellent condition and will be reused. Bigger mains will mean increased pressure and better protection throughout city.

These Stars Still Shine

Neither out of sight nor out of mind are those enduring old movies. Films from Hollywood's early, ingenious days had a quality of believability no matter how impossible the story was.

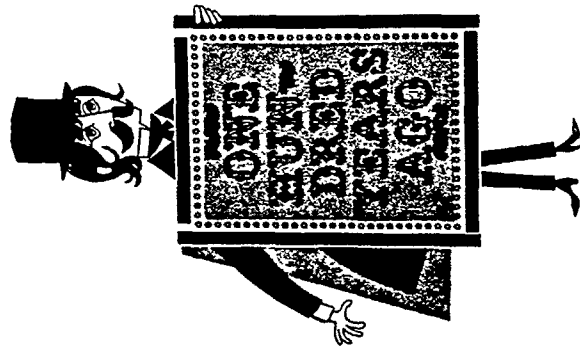
Their heroes were thoroughly virtuous; their villains, uncompromisingly bad. Moviegoers then were never in doubt for whom to cheer or jeer. There may have been too many pie-in-the-face and run-away trolley cars, but a knowledge of abnormal psychology was never a requisite to understand what was going on.

Here are presented some scenes from vintage movies shown on "Silents Please," an ABC-TV program seen on Thursday night. Do you remember the stars and pictures?



1. Rudolph Valentino, "Son of the Sheik." 2. Lon Chaney, "The Hunchback of Notre Dame." 3. Douglas Fairbanks, Sr., "The Black Pirate." 4. Jola Gonda, Joseph Schildkraut, "Road to Yesterday."





(This is the third column in a new series. It is intended to picture life in the United States 100 years ago, when large quantities of Cast Iron Pipe, much of which is still doing duty, were being installed in many American cities.)

Some 63 public water utilities and 80 private ones were providing regular service to their customers. Among the larger cities still without a water system were Milwaukee, Providence, R. I., and Portland, Me. . . . Cider of all strengths remained the most popular U. S. beverage. It was sold in Massachusetts for 10 cents a gallon . . .

Because of a bumper wheat crop and the inability of Europe to produce all it could use, American wheat exports rose to 53 million bushels. A year earlier they totaled 17.5 million . . .

CAST IRON PIPE RESEARCH ASSN.

Flow of Water in Cast Iron Pipe: Booklet on flow capacity of Cast Iron Pipe, including flow tables based on Williams-Hazen Formula.

A.S.A. Specifications A21.10—1953: Short body Cast Iron Fittings 3"-12" for 250 p.s.i. water pressure plus water hammer.

A.S.A. Specifications A21.11—1953: Mechanical Joint for Cast Iron Pressure Pipe and Fittings.

ALABAMA PIPE COMPANY

Catalog No. 54: Catalog descriptive of 3" through 24" Cast Iron Pipe and Fittings.

APCO ALTITE Joint: Bulletin describing the joint and assembly.

AMERICAN CAST IRON PIPE CO.

AMERICAN MOLOX Ball Joint Pipe: Molox Ball Joint Pipe for river crossings and submarine service is the subject of this new catalog.

AMERICAN FASTITE Joint Pipe: This illustrated 12-page brochure describes the advantages of the double sealing, single gasket push-type AMERICAN FASTITE Joint.

ANSWERS TO YOUR

JAMES B. CLOW & SONS, INC.

Clow "BELL-TITE" Joint Cast Iron Pipe: Described in illustrated circular 2-20-59.

Clow Ball Joint River Crossing Cast Iron Pipe: New, illustrated 8-page brochure giving dimensions, weights and full details.

GLAMORGAN PIPE & FOUNDRY CO.

General Catalog No. 60: Full details of weights and dimensions of Cast Iron Pipe and Fittings and Specifications.

TYTON JOINT PIPE—Brochure.

GRIFFIN PIPE DIVISION, Griffin Wheel Company

Introducing Griffin Pipe.

GRIFFIN-20-Council Bluffs Bell-Tite Joint Instructions.

LONE STAR STEEL COMPANY

79-page, illustrated, Technical Data Book.

LYNCHBURG FOUNDRY COMPANY

BELL-TITE Joint: Brochure on centrifugally cast Bell-Tite Joint Pipe giving data on joint and assembly.

Approximately 30,000 miles of railroad tracks were in use and various lines were racing each other to the Pacific. Ten years earlier, only 3,000 miles were in operation. Today, there are one quarter million miles of tracks . . .

The Pennsylvania and the New York Central Railroads scheduled trains between New York and Chicago which chugged along at the then amazing speed of 40 miles an hour . . . Irish-born A. T. Stewart, first of the merchant princes and new American millionaires, started building his two-acre retail store in New York City. The world's largest store, it was later sold to John Wanamaker . . .

There were 100,000 children in public elementary school and 50,000 more in secondary school. The national average salary for a male teacher was \$380. His female counterpart received \$150 less for her talents . . .

PIPE PROBLEMS

MCWANE CAST IRON PIPE CO.

General Catalog No. 53.

TYTON JOINT Pipe Folder. 2" and 2 1/4" Cast Iron Pipe Folder.

PACIFIC STATES CAST IRON PIPE CO.

General Catalog No. 53.

TYTON JOINT Pipe Folder. Mechanical Joint Pipe Booklet.

SHAHMOON INDUSTRIES, INC., Warren Foundry & Pipe Division.

Fittings-Booklet.

TYTON JOINT Pipe—Pamphlet.

UNITED STATES PIPE & FOUNDRY CO.

TYTON JOINT pipe: An 8-page booklet on centrifugally cast Tyton Joint Pipe. Illustrations show detail of joint and method of assembly.

USIFLEX Boltless Flexible Joint pipe: 8-page booklet gives details on new boltless type pipe for river crossings and submarine service.

Eleven thousand libraries of one kind or another were open and daily newspaper circulation reached one and a half million . . .

The great migration to the West—and to a better life—was underway. By the time the frontier had ceased to exist—about 1890—some seven million people had risked the hardships of a pioneer existence . . .

Kansas entered the Union as the thirty-fourth state. U. S. population was up to 31.5 million.

An observer, writing about the popularity of ice skating in the northern part of the country, commented: "This sport was one of the few that required little instruction from Old World Customs. Popular with old and young and with both sexes, advocates of women's rights seized upon it as a means of ushering in the new day; some found it an excellent argument for the bloomer costume."

R. D. WOOD COMPANY

General Catalog: Full details of weights and dimensions of "SAND-SPUN" Cast Iron Pipe, Cast Iron Fittings and specialties.

TYTON JOINT Circular: Illustrated pamphlet describing "SAND-SPUN" centrifugally cast Tyton Joint Pipe, and how to assemble.

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SUITE 3440, PRUDENTIAL PLAZA

Chicago 1, Illinois

Thomas F. Wolfe, Managing Director

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VOL. XXVIII AUGUST-SEPTEMBER NO. 4

Produced by Gebbie Press, New York City
Norman B. Wakeman, Editor

So who needs water?



You do!

In the midst of seeming plenty, more than 1000 communities face water shortages this year. □ The booklet shown below tells you how to solve today's water problems . . . and prevent tomorrow's. (One tip: insist on cast iron pipe. This dependable carrier will deliver water to your grandchildren—and theirs!) □ It's nice to say "So who needs water?" and know you never will. You start when you send for the booklet. Cast Iron Pipe Research Association, Thos. F. Wolfe, Managing Director, 3440 Prudential Plaza, Chicago 1, Ill.



CAST IRON PIPE

THE MARK OF THE 100-YEAR PIPE

[illegible]