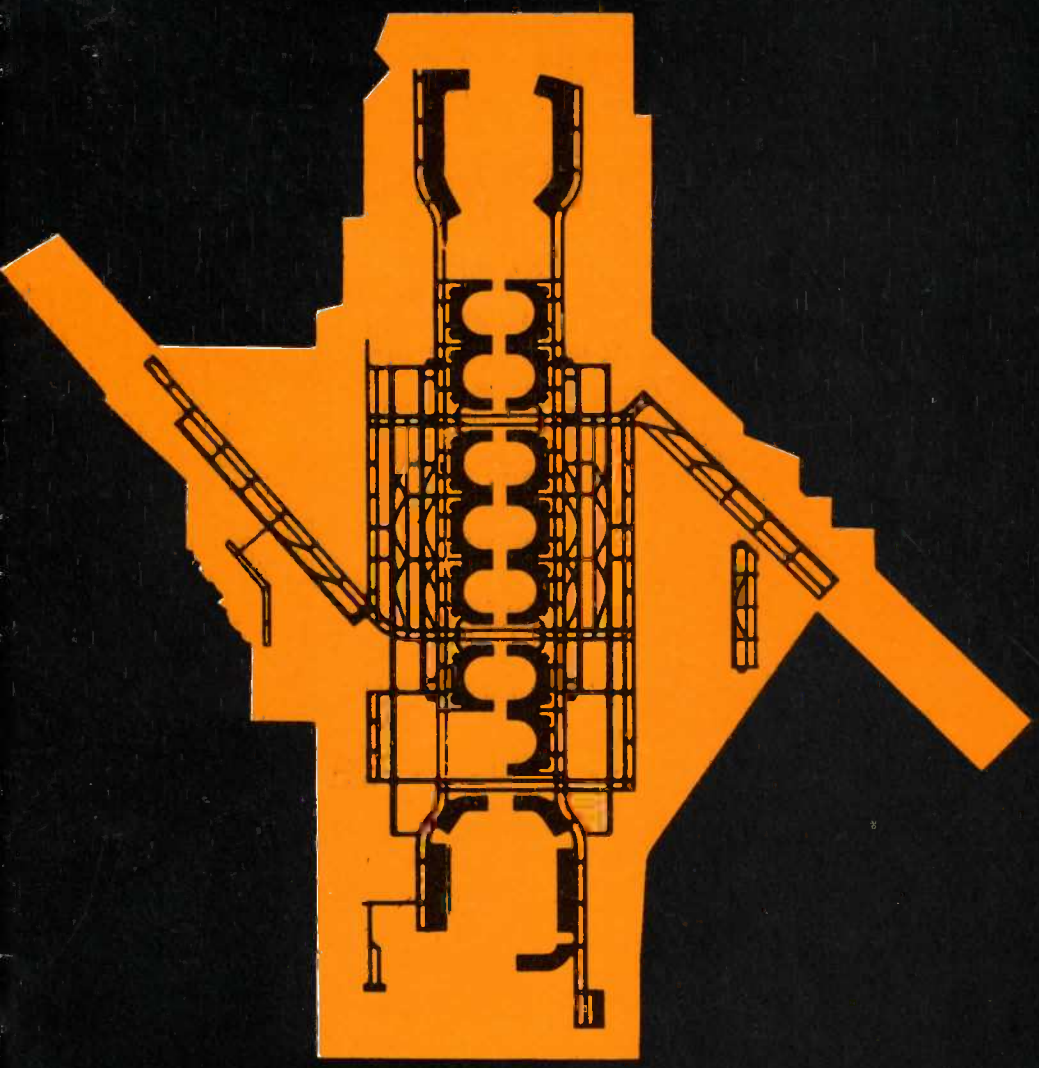
MUELLER

Record

SUMMER/FALL 1974

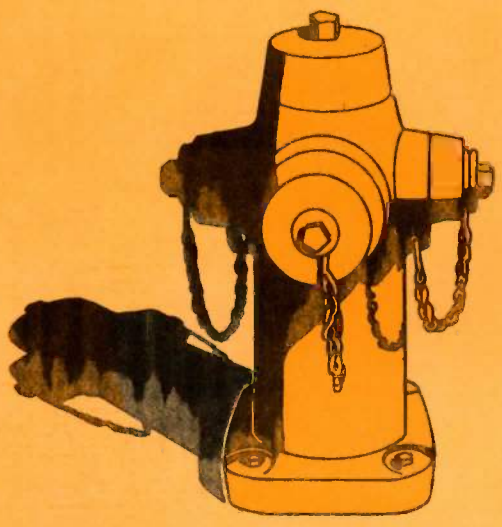
DFW 2001



DALLAS/FORT WORTH

AIRPORT

Seventy-five of these Mueller Modern Improved fire hydrants are installed at DFW. See story on opposite page.



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Serving the water and gas industries since 1857

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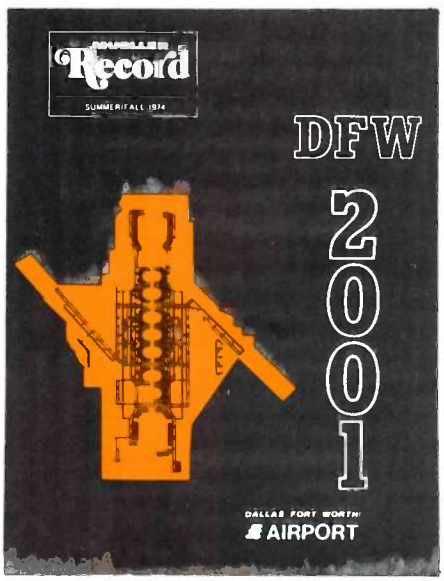
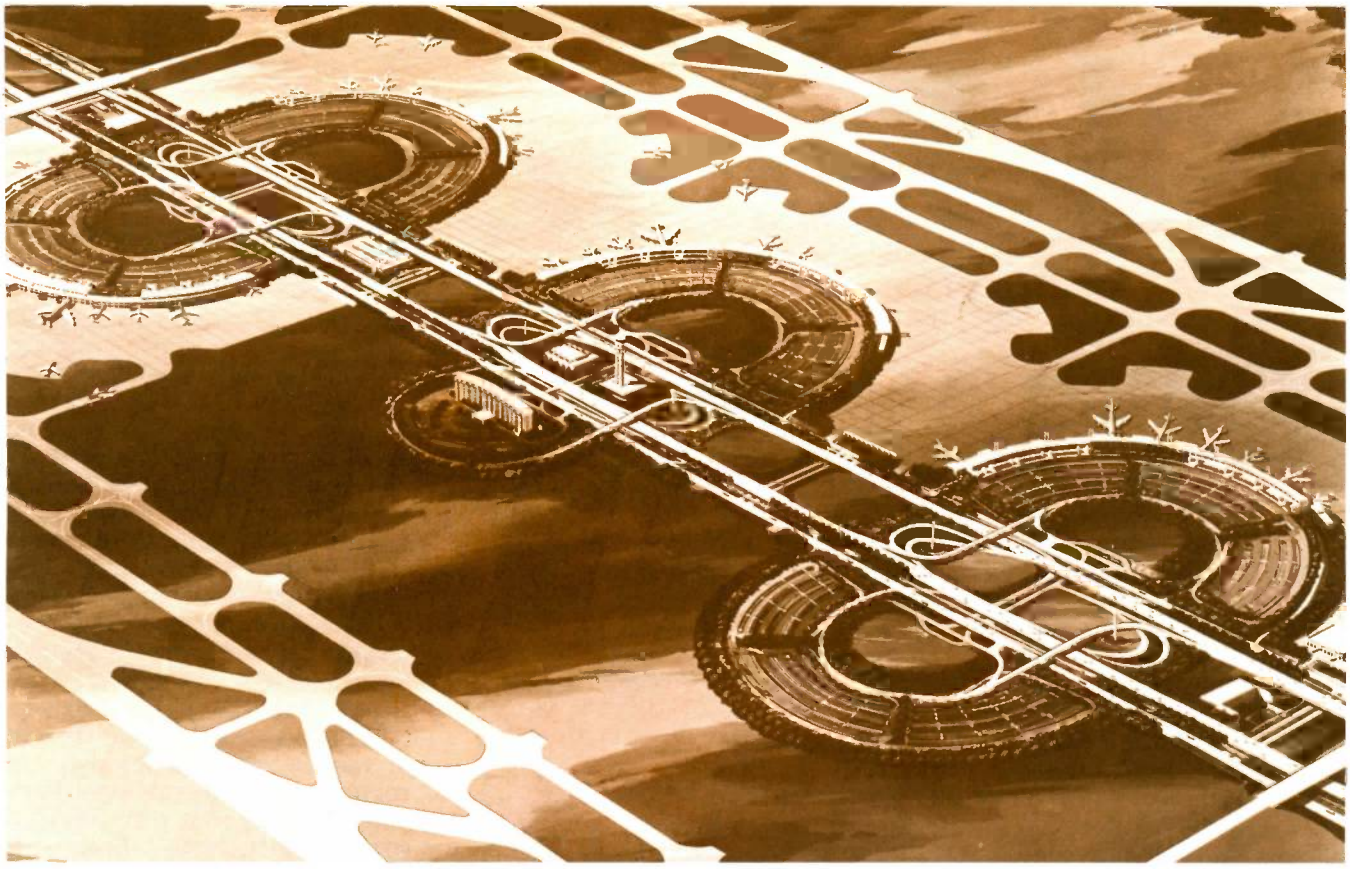
Jim Cussins
Editorial Consultant



About the Cover:

Artist's conception of layout of the Dallas/Fort Worth Airport when it is completed around the year 2001.



DFW-2001

Where and what is it? It's in Texas and, for once, the well-known Texas affinity for superlatives may be inadequate. It's the Dallas/Fort Worth Regional Airport. It is literally the biggest, the best, the most, and the greatest, and by the time it's completed in the year 2001, it will have the largest daily population of employees and annual totals of passengers and cargo volumes of any airport in the world.

DFW is the most thoroughly planned, most advanced air facility ever constructed. It is the first airport to be constructed under a master plan, a plan providing for the demands of aviation to the year 2000 and beyond. The DFW design represents a triple breakthrough in the development of worldwide air transport hub facilities, including a free-flow parkway with localized spin-off parking, a computer-controlled multi-terminal transit system for passengers and baggage, and large-radius circular terminals with easy access for both passengers and aircraft.

Located midway between Dallas and Forth Worth, about 17 miles from each, this jumbo jet facility encompasses over 17,500 acres of land - an area larger than New York City's Manhattan Island, twice as big as Chicago's O'Hare, three times larger than Kennedy International Airport and six times as big as Los Angeles International! It stretches nine miles between north and south boundaries and nearly eight miles between extreme east and west points. By 1975 it will have 18,500 employees and an average daily population of 100,000 people - employees, travelers, visitors and sightseers.

Over 8000 acres are reserved for the airfield complex, including runways, taxiways and aircraft aprons at terminal facilities. Many of the remaining acres are devoted to environmental protection, a sound buffer to prevent most airport noise from disturbing surrounding areas.

There is no central terminal complex through which all passengers must flow, a situation that traditionally causes congestion at other major airports. Instead, the terminal is composed of a series of modular "mini-terminals" - large half-loop buildings - four of which are included in the opening phase construction. Thirteen of the mini-terminals are planned for construction eventually, and the planning is such that their construction will not interfere with any terminal or runway then operating. Some idea of the size of the mini-terminals may be visualized by the fact that the former largest airport terminal complex, Kennedy International, would fit into four of DFW's terminal loop areas.

The mini-terminals are formed to provide only the space an airline needs to conduct its passenger operations, ticketing,

DFW-2001 *(cont'd)*

DFW's Executive Director, Ernest E. Dean, A. L. Utesch, Jack Chilton, and Dick Kitchen discuss with Dean the many aspects of his job as Director of the world's largest airport.

Editor's Note:

The June 24 issue of TIME magazine was extremely critical of the DFW Airport. We felt you would like to know that both DFW's Executive Director, Earnest E. Dean, and Rex A. McClessan, Assistant Vice-President - Properties for Delta Airlines responded with letters to the Editor of TIME magazine.

Dean stated, "We are surprised and disappointed that TIME's accuracy and its usual vision and depth were not evident in your very unfair and distorted piece on the new DFW Airport. Despite its detractors, DFW is destined to become a major air hub of the future. As a bold step forward in conception and design of airports, it deserves better treatment."

McClessan wrote, "The article 'Airport: Impossible' unfairly criticizes the new Dallas-Ft. Worth Regional Airport and contains several misrepresentations."

In a 213 word telex to the TIMES Editor, the President of the Air Line Pilots Association of the United States and International Federation of Air Line Pilots Association (representing 56,000 professional pilots from 65 nations) J. J. O'Donnell wired, ". . .The Air Line Pilots take adamant objection of your Impossible label on the Dallas/Fort Worth Regional Airport. The pilot technical committees composed of many civil and aeronautical engineers, economists, human factors and airport planning experts have, by very comprehensive evaluation and passenger survey, determined unanimously that DFW is the safest and most efficient airport in existence from airport user standpoint. DFW is not impossible. It is a modern day miracle derived by men of vision completely dedicated to the air transportation user needs and the result of 44 years of encouragement from the Pilot profession."

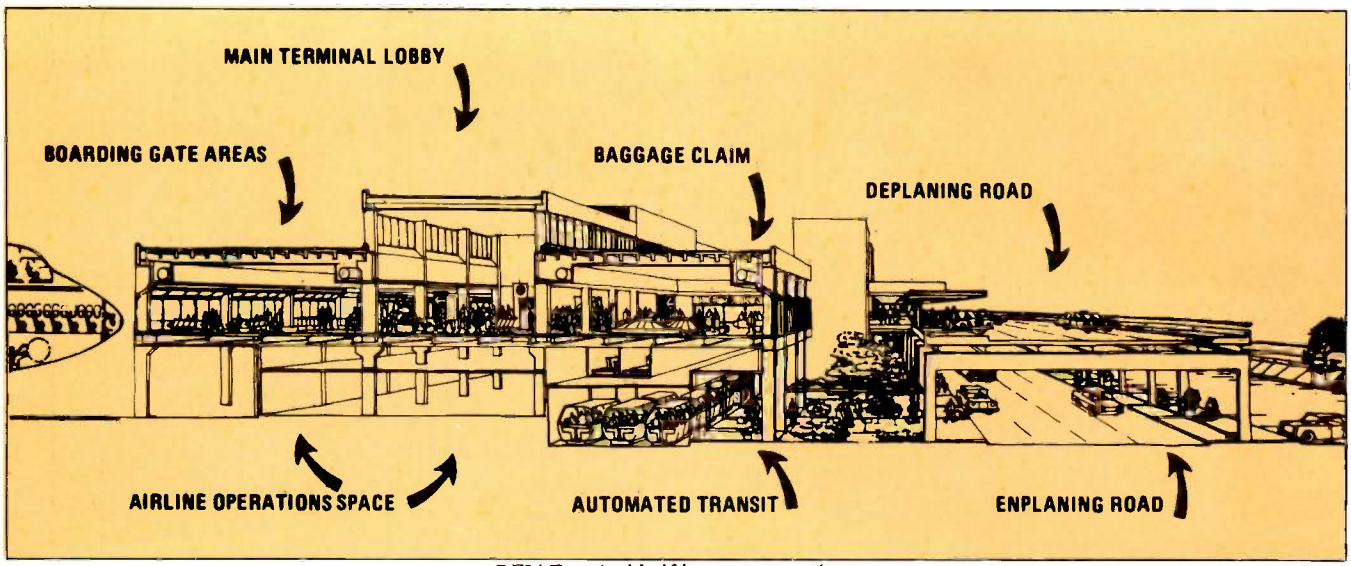
check-in services and baggage check. Other areas, such as newsstands, *lunch counters* and personal service facilities, are in close proximity to the check-in areas. The result is an ideal relationship between the passenger-side and the air-side of the airport with optimum operational ease for both. The airlines can function at peak-load capacity without costly delays in aircraft movement, and the passenger is guided to and through his boarding gate so smoothly he is hardly aware of the vast complex surrounding him. From front door to plane door, travelers may walk as little as 120 feet.

Another convenience is the automobile parking in front of the terminal buildings. Passengers drive to DFW via either of the two expanded state highways crossing the north and south ends of the airport. These highways connect with International Parkway, the airport's own 6½ mile super expressway. From the International Parkway, passengers are directed into large semi-circular terminal structures where they park within the terminal loops only a short distance from the boarding gates of any specific airline.

The drive to and through the airport is a beautiful one as the passenger enjoys the sight of more than 10,000 trees, 3,600 shrubs and 1.5 million ground cover plants set out along airport roadways and in terminal areas. This award-winning landscape, designed to protect the airport's ecology, gives DFW a park-like appearance.

The terminal roadway system has two road levels at the front of the terminal buildings. The lower level allows enplaning passengers to be driven close to the aircraft gate. The elevated level allows deplaning passengers to get into departing transportation adjacent to their aircraft gate.

Valet parking is available, and additional parking is located at the north and south ends of the terminal complex with access to the terminal buildings by AIRTRANS.



DFW Terminal half loop cross-section.

AIRTRANS is a significant contribution to the development of surface mass transportation. The system, designed to link all areas of DFW's decentralized terminal complex, is a 13-mile computer-operated network of vehicles which transport not only people, but baggage, mail and supplies. Some passengers will come in on one airline and leave on another ; some will leave from one terminal and return to another while their automobiles remain at the first terminal. AIRTRANS is designed to give passengers an average trip time of ten minutes between any two points.

In the opening phase construction, there are three commercial runways, two primary north-south runways 11,400 feet long, which can be expanded to 13,440 feet, and a shorter crosswind runway of 9,000 feet, which can be expanded to 11,000 feet. Ultimately, two more north-south runways up to 20,000 feet long will be added, as well as a second crosswind runway the same length as the original and separate runways and facilities for business aviation and STOL (Short Take-Off and Landing) aircraft. When fully developed, DFW can handle more airline traffic than the present combined capacities of all three New York airports - LaGuardia, Newark and Kennedy.

"Cargo cities," planned at both the north and south ends of the airport, will be developed with up to 200 cargo gates. Each gate will be capable of accommodating the huge cargo planes now in existence and even larger aircraft being designed for the future. With this full development, DFW could ship as much freight as any seaport in the world handles today.

Taxiway and runway separations have been designed to accommodate the wingspread and fusilage length of aircraft of the future. Taxiways serve aircraft entering or exiting runways and terminal aprons without hampering aircraft movements. The circular design of the terminals allows planes to move to or from aircraft gates without obstruction from other aircraft.

The airport is not a fully tax-supported venture. Land for the airport was purchased by the cities of Dallas and Fort Worth at a cost of $58 million. Construction is financed through the sale of joint revenue bonds of the eight airlines DFW initially serves. These bonds, the conventional means of financing major airport construction, will be retired by income from landing fees, concession fees, rentals and other sources.

(Continued on next page)

JACK CHILTON, Mueller Sales Representative from Dallas, points to one of the 75 MUELLER® Modern Improved Fire Hydrants installed at the DFW Airport. Shown with Jack is DFW's Supervisor of Utilities A. L. Utesch and R. D. Kitchen, Mueller Southwest District Sales Manager.

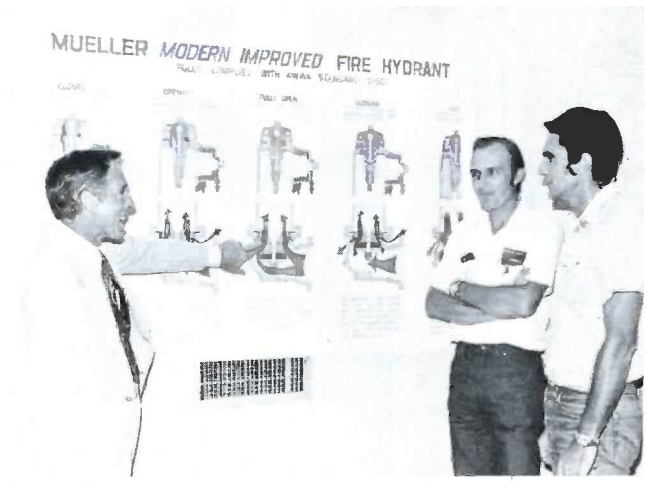
DFW-2001 *(cont'd)*

A. L. Utesch, Jerome Davis, DFW's Communications Director, Jack Chilton and R. D. Kitchen stand in front of the model of the Dallas/Fort Worth Airport.

Opening phase costs, including land purchases, construction costs and development of entry highways, total more than $700 million. Except for land acquisition, the airport will be self-liquidating in this debt amount and will also be self-supporting through revenues earned from airport users.

In its first stage development, this huge facility will handle a forecasted 8 million enplanements in 1975. Airport construction is planned to meet the demands of over 12 million enplanements in 1980 and 24 million in 1985.

To handle this volume of operations, an estimated 25,000 employees will work at the airport by 1980. For the daily population of 100,000 some 20,000 parking places will be provided.



Jack Chilton explains the many features of the Modern Improved Fire Hydrant to DFW's water plant operators, James King and Billy Collum.

The Dallas/Forth Worth Airport will see phenomenal growth in air cargo. As the airport develops, cargo tonnage is expected to increase from about 100,000 tons in 1975 to 250,000 tons in 1985.

In terms of economic impact, the airport will contribute almost $267 million in direct purchases of goods and services to the North Central Texas Region in the year 1975. Another $360 million will be spent indirectly in support of airport operations in the area during 1975. The airport, then, represents a significant money generator - $627 million annually - in the economy, as well as providing employment for an estimated 20,000 in support jobs for area residents.

FACTS ABOUT DFW:

It has the largest air conditioning system in the world with over 25,000 tons - enough to air-condition three skyscrapers the size of the Empire State Building.

Over 140 miles of pipe was installed for the many airport systems, 85 miles of water mains, ductile iron and concrete. So far, 75 Mueller A-419 Modern Improved Fire Hydrants have been installed at DFW. System pressure is 80-85 psi.

Normal water usage is 2,000,000 gallons per day. Pumps are used exclusively for water distribution. There is no elevated water storage since the airport buys all its water from the cities of Dallas and Fort Worth.

If all the earth moved during the first-phase construction was loaded into 10-yard dump trucks, lined bumper to bumper, they would stretch all the way around the world.

ENGINEERING REPORT ON THE MUELLER® INSTA-TITE® CONNECTION

by
Richard A. Stultz

The use of plastic pipe and tubing in both gas and water distribution systems has increased rapidly in the past few years. Among the many reasons for this increase are low initial cost, ease of installation, and resistance to corrosion with little or no repairs being required.

Polyethelene (PE) has been used increasingly in service lines for water distribution systems. PE plastic pipe (made in accordance with ASTM D-2239 SDR 7) in 3/4" and 1" sizes and PE plastic tubing (ASTM D-2737) in 3/4" and 1" copper tube sizes are among the most popular. Both carry a pressure rating of 160 psig.

With increased use of plastic pipe and tubing, a need arose for more and better methods of attachment to other pipe or tubing materials. The typical means of attachment has been an adapter with a compression type connection for plastics at one end and a suitable connection for other materials at the other end.

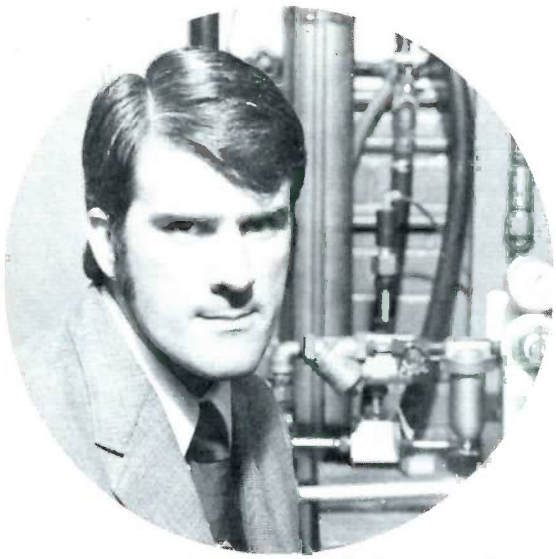
Recognizing the need for a practical, easy-to-use connection for PE plastic pipe, Mueller Co. began work in 1968 on a connection for 3/4" and 1" IPS PE-160 plastic pipe (ASTM D-2239 SDR-7). The goal was a connection with the following attributes:

1. Easy to install with no assembly skill required;
2. Low initial cost;
3. Pressure tight;
4. Highly resistant to pullout.

What evolved was a patented connecting device which not only met all these criteria but also had the desirable feature of being a "stab" type connection. This connection consists of just three basic parts: a brass body in accordance with AWWA standards, a rubber "O" ring sealing member, and a plastic grip ring which allows plastic pipe to be inserted easily but makes it extremely difficult to remove without using speical tools. (A cross-section of these parts is shown.)

This new development was appropriately named INSTA-TITE because it can be installed easily and quickly and provides a tight, no-leak connection.

The sealing member of the INSTA-TITE Connection is a rubber "O" ring. When plastic pipe is inserted into the INSTA-TITE, a seal is made due to an interference fit between the body, pipe and "O" ring which provides an initial pressure seal. If the grip ring tends to move from its original position toward the front of the INSTA-TITE body, the pressure pushes the "O" ring on down the tapered portion of the body and increases its pressure sealing ability.



Richard A. Stultz, Mueller Project Engineer and author of this report

While the grip ring has been designed for easy insertion of plastic pipe into the INSTA-TITE Connection, any attempt to pull the pipe out is resisted by this same grip ring. The tapered edge of the grip ring and the tapered surface of the body cooperate to increase resistance so that the greater the pullout load, the greater the pullout resistance. Because of the configuration of the grip ring, it is possible to design INSTA-TITE Connections to accept plastic pipe with a large O.D. variance.

Unlike typical compression connections for plastic pipe and tubing, INSTA-TITE Connection requires no inserts or liners because of its unique retaining design.

An INSTA-TITE connection is easy to assemble. There is just one quick operation to prepare the plastic pipe. This consists simply of beveling the end of the pipe to be inserted, using a special tool available from Mueller Co. Once the pipe is beveled, assembly takes less than a second.

The INSTA-TITE is as easy to disassemble as it is to assemble, again using specially designed removal tools available from Mueller Co.

(continued on next page)

Cross-section of Insta-Tite Connection

The INSTA-TITE Connection was placed on the market in 1971 in 3/4" and 1" PE 160 IPS sizes for PE plastic pipe. This was followed soon afterward by the introduction of 3/4" and 1" copper tube size PE plastic tubing connections. Because of their economy and outstanding performance, the connections have gained rapid acceptance in the water industry.

Before the connection was released for sale, however, it was tested extensively in the Mueller Co. Engineering Division's Research and Development Laboratory. Tests were designed to reproduce the worst possible conditions in field use. The results of these tests. . .which fall in two major categories, strength (pullout resistance) and sealing ability. . .are briefly described below:

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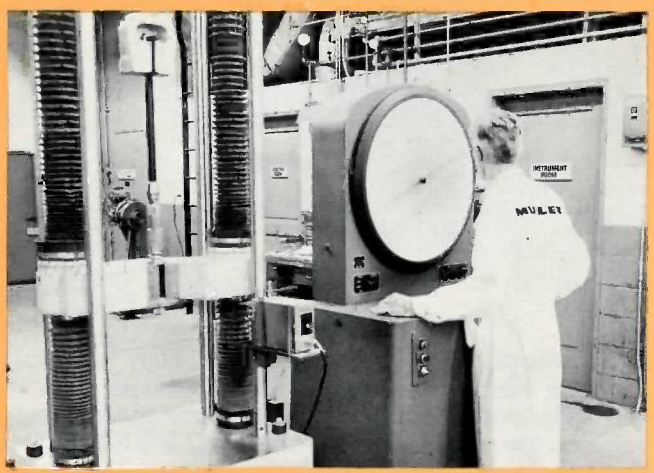
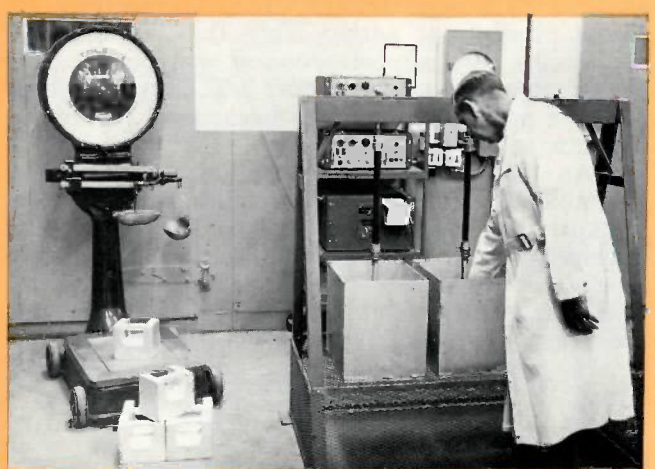
STRENGTH



Pullout Resistance - Short Term

To determine the short term pullout characteristics of each type and size of INSTA-TITE Connections, a typical assembly was placed in a Tinius-Olsen machine and slowly tensile-tested until failure. While the plastic pipe or tubing itself fails before 850 psig, the INSTA-TITE Connection withstands a load equivalent to a pressure in excess of 1000 psig of internal pressure to force the plastic pipe or tubing out of the connection.



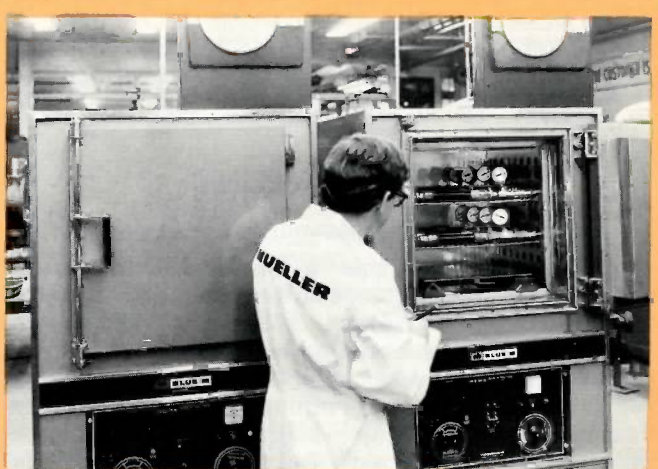
Pullout Resistance - Long Term

This is a very severe test, because it induces a large amount of "plastic creep," due to its long duration. Commonly referred to as the dead weight test, a connection at each end of a piece of plastic pipe supports a 300 pound weight, the equivalent of an internal pressure above 550 psig. INSTA-TITE Connections sustain loads of 300 pounds for more than 4000 hours without failure.

SEALING ABILITY

Burst Tests

In this test the Connection assembly is pressurized with water until a failure occurs. The plastic pipe always failed outside of the connection which is the desired result of this type of test. The connections sustained a pressure of 825 psig with no leakage or slippage.



Temperature Cycle Test - Unrestrained

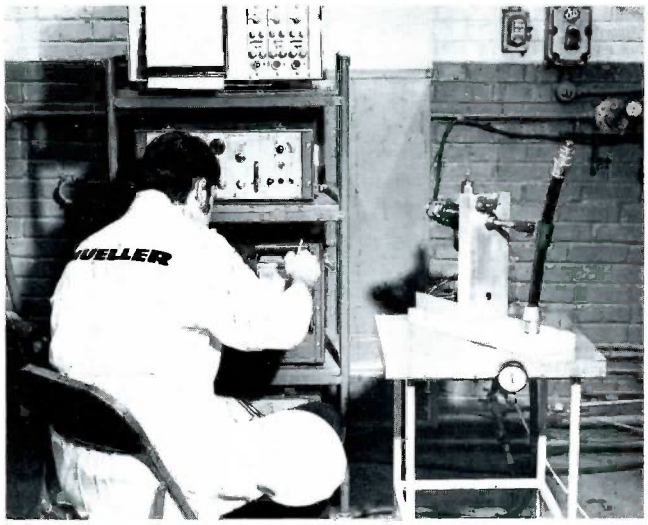
Connections are subjected to cycling between +35° F. and +105°F. at water pressures of 30 to 160 psig, each cycle lasting 24 hours. After 10 cycles at a water pressure of 30 psig and 10 cycles at a water pressure of 160 psig, no leakage or pipe slippage of the connections occurred which, again, was the desirable result.

(Continued on next page)

STRENGTH

Temperature Cycle Test - Restrained

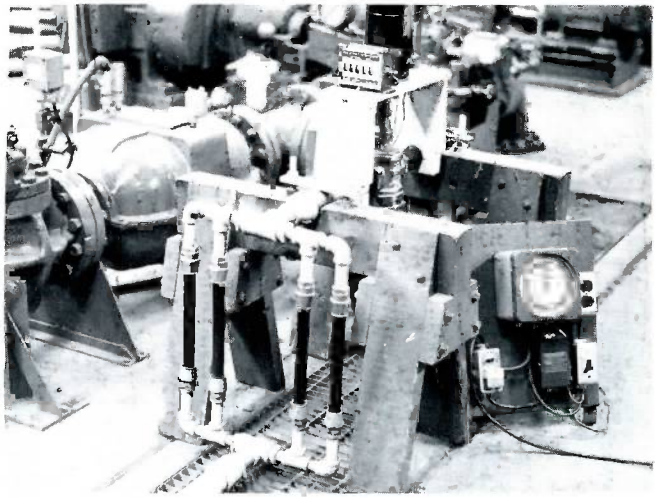
This test is conducted the same as the unrestrained test with one exception. Before being pressurized, both connections are securely attached to a piece of angle iron to prevent the pipe from moving and to confine the "O" ring to its worst possible seating area. Test results were the same—no leakage or slippage in the connections.



Flexure Test

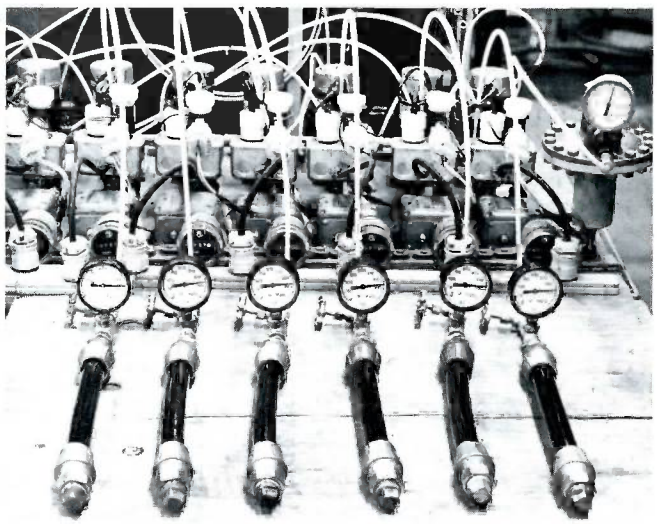
The purpose of this test is to determine the sealing characteristics and pullout resistance of the connection when subjected to a cyclic pipe loading. A typical assembly is made up and then pressurized to 100 psig water. The assembly is then mounted in the test fixture and the cycling device started. After 750,000 cycles no leakage was observed. When disassembled, the connections showed no signs of slipping with respect to the grip ring.

SEALING ABILITY



Pressure Cycle Test

Typical assemblies are subjected to a cyclic pressure differential from 0 to 160 psig instantaneously to determine the sealing characteristics of the connection. After 1.2 million cycles, no leakage was observed and no slippage was found when the connections were disassembled.



Long Term Pressure Test

This test was to determine whether the INSTA-TITE Connection can pass the same sustained pressure test that plastic pipe or tubing must meet—no leakage or slippage is allowed. The units were tested at pressures of 350 psig for over 6000 hours without failure of any INSTA-TITE Connection.

o o o o o

When a connection such as the INSTA-TITE Connection completes all of these tests with satisfactory performance levels, then, and only then, it is ready to become a Mueller Co. product. Even after its release for sale, a close watch is kept to ensure good performance in the field. In additon to regular quality control, the Engineering Department periodically tests random samples taken from production stock to be sure the quality of the connections is maintained.

56 reasons why MUELLER® means more

Your Mueller Representative is at your service. But not on your payroll. That's part of the value you get when you specify Mueller.

Mueller Sales Representatives are factory trained and field experienced to provide you with extra "know-how" for every job. They're available regularly and quickly when you need them. And they're backed by a large staff of engineering and sales-service personnel, five plants strategically located throughout the nation and a network of over 400 stocking distributors specially qualified to serve the waterworks industry.

It's the fullest sales and service coverage in the industry. Combine this with the most complete product line available, unmatched research and development, and over a century of highest quality in engineering and manufacturing and you know why Mueller gives you more value in the best package you can buy.

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FACTORIES AT: DECATUR, CHATTANOOGA, BREA (LOS ANGELES), MUELLER, LIMITED, SARNIA, CANADA

serving the water and gas industries since 1857

WC-403

for your money

Editor's Note: How better could we show you the unusually broad sales coverage than to give you a sneak preview of this ad which will soon be appearing in various trade publications? We know that most of you will recognize the representative and/or district manager in your area.

Meet Mueller's Inside Sales Representatives

. . .The Face On The Phone

All of our customers are acquainted with the District Sales Managers and Sales Representatives from our Mueller field or "outside" sales force who serve in their particular territory. Few customers, however, have ever seen the people who work in the Sales Offices in Decatur, Chattanooga or Brea and comprise our "inside" sales force.

The Water Department of the Decatur Sales Office receives and processes all orders for water products except those of the Western District comprised of Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, Washington and part of Montana which is serviced by Brea Sales Office. The Chattanooga Sales Office receives and processes all valve and hydrant orders as well as orders for other products manufactured in Chattanooga.

We feel sure that our customers would be interested in knowing not only how these members of the inside sales force look but also something about each one and their duties. They have a wealth of experience (a combined total of 277 years or an average of 13.85 years per person) which enables them to effectively serve our water customers. Here then are the members of Mueller Co.'s "inside" sales force:

C. O. BAFFORD - Decatur Sales Office Manager
Charlie, a native of Blue Mound, Illinois, joined Mueller Co. in 1950. Since then, he has advanced through various positions to his present position as Decatur Sales Office Manager. Charlie supervises sales activities and the duties of all members of the Decatur Sales Office. He is a likable and talented person and has a wealth of experience and wide acquaintance with our customers in the water industry. Charlie is married and has three children. His outside interests are many and varied. He is very activie in fraternal organizations and enjoys watching high school, college or professional football whenever possible.

D. E. BAGENSKI - Decatur Sales Service Manager
Del, a native of Decatur, Illinois, joined Mueller Co. in 1950 and is now in charge of the Water Department in the Decatur Sales Office. His primary responsibility is to assist the Decatur Sales Office Manager in providing services incidental to the sales activity of the Water Department. This includes answering inquiries by mail, phone or personal contact regarding products, prices, deliveries and complaints as well as the uses of products. Del also prepares formal and informal quotations and assists in the training of new employees in the Decatur Sales Office. Everyone seems to know Del. It's unusual to find one of our water customers who is not acquainted with him. Del's outside activities include woodworking, bowling and golf as well as enjoying professional football and baseball.

L. L. SHEETS - Decatur Sales Service Correspondent
Larry, a native of Decatur, Illinois, joined Mueller Co. in 1962 and has been the Decatur Sales Service Correspondent since 1972. Larry's primary responsibility is to provide services incidental to all sales activities of the Decatur Sales Office Water Department. His duties are the same as Del Bagenski, and he acts as Del's backup man when Del is absent. Larry is married and has four children. His outside activities include the watching of professional hockey, baseball and football.

R. L. EWING - Decatur Sales Department Assistant
Ray, another native of Decatur, Illinois, joined Mueller Co. in 1965 and is now the Decatur Sales Department Assistant. His primary responsibility is to assist the Decatur Sales Service Manager and Sales Service Correspondent in the performance of their duties and to assume their duties if they are absent. In addition, he helps expedite the flow of work through the Water Department. Ray is married and has two children. His outside activities include hunting, watching baseball, football and auto racing. Ray also collects all sizes and types of horse statues from states he has visited.

R. J. STARK - Decatur Customer Service Correspondent
Bob, a native of Metropolis, Illinois, joined Mueller Co. in 1969. Bob's primary responsibility is to answer customer inquiries on delivery of orders. He determines delivery dates on items from stock, obtains information from various production centers on delivery dates and, in turn, advises customers. He also checks unshipped orders and determines the reason and establishes revised shipping dates. Bob is married and has two children. His main outside interests are baseball and tennis.

R. L. GRANT - Decatur Order Department Supervisor
Ron, a native of Stonington, Illinois, joined Mueller Co. in 1968. Ron's primary responsibility is to assist the Decatur Sales Office Manager and Sales Service Manager in providing services to expedite sales activities in the Decatur Sales Office. He interprets all sales orders and is responsible for their being correct. He ascertains the exact interpretation for each line item on each order received. At times, this necessitates consultation with various departments at Mueller Co. to obtain the information to interpret a customer's requirements properly. Ron is married and his outside interests include boating, golfing and tennis.

GEORGE PIPER - Chattanooga Sales Office Manager
George joined Mueller Co. in 1957 as Sales Service Correspondent. Since then, he has advanced through various positions to his present position as Chattanooga Sales Office Manager. George supervises sales activities and the duties of all members of the Chattanooga Sales Office. He is a likable and talented person and has a wealth of experience and wide acquaintance with our customers in the water industry. George is married and has four daughters and one son. His outside interests include family camping, canoeing and "working around the house." He is also active in church work.

RALPH SHAFER - Chattanooga Sales Service Manager
Ralph joined Mueller Co. in 1962. His primary responsiblity is to assist the Chattanooga Sales Office Manager in providing services incidental to the sales activity of the Chattanooga Sales Office. This includes answering inquiries by mail, phone, or personal contact regarding products, prices, deliveries and complaints as well as the uses of products. Ralph also prepares formal and informal quotations and assists in the training of new employees in the Chattanooga Sales Office. Everyone seems to know Ralph. It's unusual to find one of our water customers who is not acquainted with him. Ralph's outside activities include boating, gardening, handy work around the house and interior decorating. He is also active in community work.

LARRY CHRISTOL - Chattanooga Sales Service Correspondent
Larry joined Mueller Co. in 1960 and has been the Chattanooga Sales Service Correspondent since 1968. Larry's primary responsibility is to provide services incidental to all Sales activities of the Chattanooga Sales Office. His duties are the same as Ralph Shafer's and he acts as Ralph's back-up man when Ralph is absent. Larry is married and has two daughters. His outside activities include gardening and sports--especially baseball.

R. KIRBY - Chattanooga Sales Service Correspondent
Roger joined Mueller Co. in 1967. Roger's primary responsibility is to provide services incidental to all sales activities of the Chattanooga Sales Office. His duties are the same as Christol's, and he too acts as Ralph's back-up man when Ralph is absent. Roger is married and has a son and daughter. His outside activities include bicycling, camping, fishing, and hunting.

H. EASLEY - Chattanooga Customer Service Coordinator
Herman joined Mueller Co. in 1955. His primary responsibility is to answer customer inquiries on delivery of orders. He determines delivery dates on items from stock, obtains information from various production centers on delivery dates and, in turn, advises customers. He also checks unshipped orders and determines the reason for delay and establishes revised shipping dates. Herman is married and has two sons. His main outside interest is baseball. He has coached Dixie Youth Baseball since 1967. In 1972 he coached the State Championship team and traveled to Florida to finish 4th in the World Series.

L. TROTTER - Chattanooga Order Expediter
Lois joined Mueller Co. in 1936. She has worked in Payroll, and Production Control before transferring to the Sales Department in 1965. She worked as an Order Interpreter before becoming Order Expediter. She works closely with Herman Easley in dealing with customers on matters concerning delivery. Lois has a son and daughter and is the proud grandmother of four boys and a girl. Her outside interests include her coin collection of several thousand pieces.

R. J. ROGERS - Chattanooga Order Department Supervisor
Ronald joined Mueller Co. in 1941. Ron's primary responsibility is to assist the Chattanooga Sales Office Manager and Sales Service Manager in providing services to expedite sales activities in the Chattanooga Sales Office. He is responsible for the correct interpretation of all sales orders, working closely with Frank Puffer and Grace Mallard. Together, they ascertain the exact interpretation for each line item on each order received. At times, this necessitates consultation with various departments at Mueller Co. to obtain the information to interpret a customer's requirements properly. His outside interests include boating, photography and his place on the lake. Ron is active in the Power Boat Squadron – an organization dedicated to Boating Safety through education. He is also quite active in church work.

F. PUFFER - Chattanooga Order Interpreter
Frank joined Mueller Co. in 1934. He worked in a number of factory departments and in 1953 came to the Sales Department. His primary responsibility is to assist the Chattanooga Order Dept. Supervisor in the correct interpretation of orders. Frank is married and has two sons. His outside interests include gardening, yard work, and working around the house.

G. MALLARD - Chattanooga Assistant Order Interpreter
Grace joined Mueller Co. in 1953. She began in Production Control and moved to the Sales Dept. in 1965. Grace assists Frank Puffer in the correct interpretation of sales orders and makes changes as may be required. Grace is married and has one daughter and is the proud grandmother of two girls and a boy. Her outside interests include sewing, gardening, photography and interior decorating.

J. R. WOLF - Brea Sales Office Manager
Jim is a native of Fullerton, California. He started in the Brea Sales Office in 1953 and has advanced through various positions to his present position as Brea Sales Office Manager. Jim's work consists of supervising the sales activities and the duties of all the members of the Brea Sales Office. Jim is well known to members of the water industry in the Western District. He is married and has one child. Jim's outside interests are centered around golf.

R. L. HOOD - Brea Sales Service Supervisor
Ron joined Mueller Co. in 1968 and now lives in Brea. His primary responsibility is to assist the Brea Sales Office Manager in providing services incidental to the sales activity of the Brea Sales Office. This includes answering inquiries by mail, phone or personal contact regarding products, prices, deliveries and complaints as well as the uses of products. Ron also prepares formal and informal quotations and assists in the training of new employees in the Brea Sales Office. Like Jim, he is well known to the members of the water industry in the Western Sales District. Ron is married and has two children. His outside interests are also centered around golf.

J. D'ANGELO - Brea Sales Service Correspondent
John also joined Mueller Co. in 1968 and now lives in Brea. John's primary responsibility is to provide services incidental to all sales activities of the Brea Sales Office. His duties are the same as Ron Hood and he acts as Ron's backup man when he is absent. John is married and has one child. Like Jim and Ron, his outside interests are also centered around golf.

R. M. BASILE - Brea Order Analyst
Bob joined Mueller Co. in 1972 and now lives in Anaheim, California. Bob's primary responsibility is to assist the Brea Order Analyst in all her functions and to take over her duties in her absence. Bob is married and has two children. His outside interests include golf and deep sea fishing.

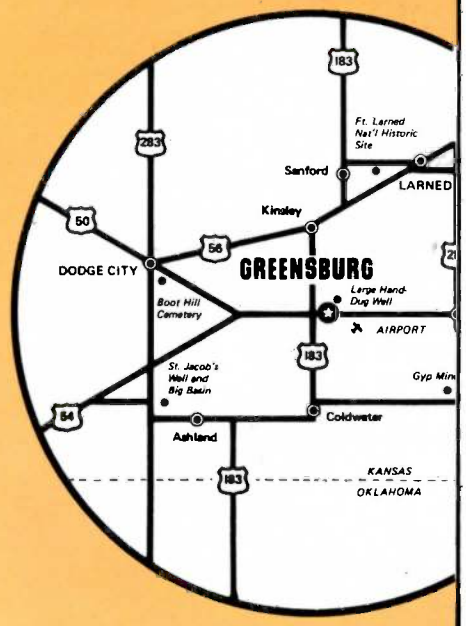
S. POLSTON - Brea Order Analyst
Sandra or "Sandy" joined Mueller Co. in 1967, and lives in Fullerton, California. Sandy's primary responsibility is to assist the Brea Sales Office Manager and Sales Service Manager in providing services to expedite sales activities in the Brea Sales Office. Her work consists of interpreting all sales orders and she is responsible for their being correct. She ascertains the exact interpretation for each line item on each order received. Sandy is married and her outside interests include boating and water skiing.

BIG WELL

For the story behind the world's largest hand-dug water well, turn back the pages of history to 1885 when the railroads were driving forward to serve booming prairie towns such as Greensburg, Kansas.

The Rock Island and Santa Fe Railroads were racing to be the first into Greensburg. In 1877, the city government granted a franchise for a water works system to cost approximately $75,000 - a huge sum in those days.

With Jack Wheeler of Stafford County as supervisor, the Santa Fe put down the well, hoping to use it as a source of water for Santa Fe trains as well as



Within a few miles of Greensburg are such landmarks as Dodge City with its Boot Hill Cemetery; Larned which boasts Pawnee Rock State Monument and Fort Larned, a National Historic Site, plus many other interesting tourist attractions.

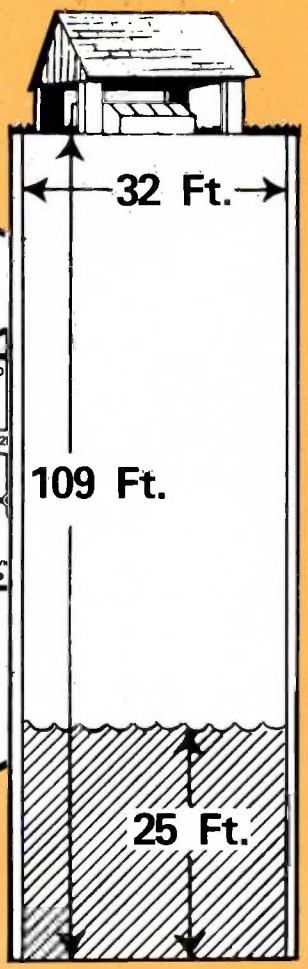


Diagram of "The Big Well"

Greensburg. But the Rock Island line won the rail laying race, and Santa Fe terminated its construction at the Kiowa County Line.

Completed in 1888, the well is a gigantic excavation. It is 32 feet in diameter, 109 feet deep and cased with a wall of stone to prevent its caving in. Native stone was hauled 12 miles from the Medicine River over roads that were little better than cattle trails.

Construction was a masterprice of ingenuity. The stone wall casing was built on a circular wooden platform at ground level. As the dirt was removed and the cavern deepened, the casing, acting as a keystone, was lowered into the excavation inch by inch by means of jackscrews. When the desired depth was reached, the casing was eased the last inch, and the well was finished.

The Big Well served the town of Greensburg until 1932, and to this day it has an adequate supply of good water for use if needed.

In 1972 the United States Government designated the Big Well as a National Museum, and in February of 1974 it was designated an American Water Landmark by the American Water Works Association.

Entries from throughout the United States are considered in the selection of a landmark by the AWWA. To achieve recognition as an American Water Landmark, an entry must be at least 50 years old, must have been granted significance within the community in which it is located, and must have had a direct relationship with water supply, treatment, distribution or technological development.

Over 2,000,000 visitors from every state in the nation and many foreign countries have descended the metal stairway into the cavern of the "world's largest hand-dug well."

Greensburg is located near the southern border of Kansas not far from other historic points. Within a few miles of Greensburg are Dodge City with its Boot Hill Cemetery, Larned, which boasts Pawnee Rock State Monument, and Fort Larned, a National Historic Site. Ashland is close with its nearby St. Jacobs Well and Big Basin, and Medicine Lodge, the home of Carrie Nation, is only a few miles away.

Photo taken at bottom of "Big Well": left to right, Matt Sylvan (see page 18 for related story); John Wynkoop, Executive Director Kansas AWWA; Gary E. Miller, President Greensburg Chamber of Commerce.

Watermarks

News of note, including some that our readers may not like but all of us should be aware of.

Notes From AWWA Conference

BAD TASTING WATER MAY BE HARMFUL

"When water tastes or smells bad, there may be danger in it," according to Richard S. Woodhull of the Connecticut State Department of Health.
Particles resulting from iron or manganese, or from iron and manganese bacterial growths, can effectively shield bacteria and viruses imbedded within the particle from the disinfection action of chlorine. Woodhull urged that water utilities furnish complete treatment, including coagulation, flocculation, settling and filtration in addition to chlorination.

COVERING RESERVOIRS KEEPS WATER CLEAN

The idea of covering reservoirs is gaining priority status in many communities. Uncovered reservoirs are subject to contamination from many sources. There is dust and airborne debris. In the presence of sunshine, water blooms with algae and other aquatic growth, and taste and odor problems soon follow. Bacteria, worms, insects and larvae feed on the algae and each other. Larger animals, such as birds, snakes and rodents, visit the water to quench their thirst and add further contamination. Man, through swimming and drownings, is also a polluter.

Suggested coverings include "floating roofs" made of relatively inexpensive plastic materials, construction of office, apartment or parking facilities over reservoirs, and spherical concrete domes which have a low initial cost and proven long service-life. Spherical concrete domes built nearly 2000 years ago are still in use today.

UPGRADING OF WATER SYSTEMS PERSONNEL DUE

Only 200 people a year are now getting training in water supply. Over 40,000 need it. Only 700 water supply systems are now under Federal authority. Soon, 40,000 systems may be. These are some of the figures cited by James McDermott, Director of the Water Supply Division of the U.S. Environmental Protection Agency, in describing the impact that passage of the pending "Safe Drinking Water Acts" in Congress will have on local water systems.
The Community Water Supply Study in 1969 showed that 63% of the operating personnel had no formal training in sanitary microbiology and, for systems which provide treatment other than disinfection, 46% had no formal training in chemistry. "Certainly," said McDermott, "the public has the right to expect that the water it consumes has been treated by trained personnel."

RAIN IS WORSE POLLUTER THAN SEWAGE

When rain falls on a city, it does more to pollute the source of drinking water than the sewage we dump into those same sources, say two experts.
The experts are Robert Pitt, an environmental engineer, and Robert Field, a sewer expert with the Environmental Protection Agency. Urban runoff, they say, contains contaminants originating from vehicle wear - like asbestos from brake linings, residue from engine emissions, drippings and assorted chemicals, including large amounts of heavy metals and pesticides.
"Current street cleaning practices in most cities are inadequate," the two experts say. Receiving waters cannot be adequately protected unless the runoff is treated or controlled, or street cleaning practices and equipment are improved.

Anyone who has to travel as a part of his work realizes there is always a certain element of danger present. Mueller Co. has been extremely fortunate in that until recently we have had only one fatality among our field sales force.

It is with deep regret that we must announce the death of our Sales Representative in Mississippi, John W. Kirk. John was critically injured in an automobile accident on January 25, 1974. After 13 weeks in intensive care at the University Medical Center in Jackson, Mississippi, John passed away at 11:00 a.m. April 28.

A native of Blue Mound, Illinois, John had been with Mueller Co. for ten years. During that period of time, he had worked in the Decatur factory, Decatur Sales Office, Advertising and Sales Promotion Department and as a sales Representative in Mississippi since 1971.

John is survived by his wife, three daughters, his parents and a sister. The John W. Kirk Educational Fund has been established at the State Bank of Blue Mound in Blue Mound, Illinois to help finance his daughters' education.

A most popular man, John will be missed by all of us who knew him.

Mueller Ripples

Matt Sylvan -
Water Utility Man of The Year

Matt Sylvan, district sales manager of the Midwest District has been voted "Water Utility Man of the Year" by the Kansas Section of American Water Works Association. Dr. George E. Symons, president of the AWWA made the presentation at the annual meeting of the Kansas Section of Topeka.

Each Section of the AWWA may select only one person to receive this award each year.

This award was formerly known as the "Fuller Award" and is the highest award in the water works profession.

Matt, a native of New York, was a consulting engineer in Wichita, Kansas and served eight years at the Kansas City Suburban Water Co., joining Mueller Co. as a sales representative in 1957. Since 1966 he has been midwest district sales manager covering all or part of 11 states.

Woodworking and flying are his chief hobbies.

He and his wife, Pat, have a grown son and daughter and make their home in Overland Park, Kansas.

(See page 15 - Big Well Story)

GILBERT

William F. Gilbert, Jr. has been appointed Sales Representative for MUELLER CO. in the State of Mississippi. He succeeds the late John W. Kirk.

Bill joined MUELLER CO. in 1964. He worked in our Chattanooga plant until 1973 when he was selected as a Sales Trainee. Since that time, he has been in an intensive sales training program. This program, combined with Bill's previous experience, has given him a thorough knowledge of products for both the water and gas industries.

Bill is married and has one daughter. His headquarters will be in the Jackson area.

KOLLOCK

James P. Kollock has been appointed Sales Representative for Mueller Co. in the state of Oklahoma.

A native of Decatur, Illinois, Jim is a graduate of Eastern Illinois University with a Bachelor of Science degree in Marketing and Management. In 1973, Jim joined Mueller Co. as a sales trainee. Since that time, he has been in an intensive sales training program where he has gained a thorough knowledge of products for both the water and gas industries.

His headquarters will be Oklahoma City.

Publication of the MUELLER RECORD is now being supervised by Jim Cussins, advertising and sales promotion manager, working with Robert Nichols & Associates, Decatur advertising agency.

CUSSINS

Joseph C. Penne, editor of the Mueller Record during most of his 13 years with Mueller Company, resigned December 1 for other employment. Joe also supervised the firm's public relations program and put out the employee NEWSLETTER. A journalism graduate of the University of Iowa, Penne was formerly with the Decatur Herald & Review.

Don Bathe, who has been in the Decatur Plant Engineering office for 10 years and with the company for 23 years, is now responsible for producing the employee NEWSLETTER and news releases. Don's new title is Supervisor of Property Records and Employee Newsletter Publication.

BAKER

Hugh L. Baker has been promoted to the newly-created position of Product Development Manager. He was formerly Manager of Marketing Services with an extensive background in both products and marketing.

A native of Decatur, Illinois, Baker graduated from the University of Michigan in 1933 and began working at Mueller Co. in 1934 in the engineering department of the company's Columbian Iron Works divison in Chattanooga, Tennessee. A year later he entered the division's sales department, becoming sales manager in 1937.

In 1945 he was transferred to Decatur as assistant sales manager for the company. Baker has held a number of positions in the headquarters sales, as well as advertising and marketing.

EDITORIAL COMMENT

Anderson Would Make Labor Violence a Federal Crime

Our nation is approaching its two hundredth birthday. It seems that by this time we should have grown up enough to have ended the senseless violence which has occurred in many recent work stoppages. We have just had the most important changeover in authority our nation could possibly have. It came about within the structure of the constitution peacefully, not with the violence and disruptions which frequently accompany a sudden change of administration in other nations.

Our forefathers established the basis for our democracy in the Declaration of Independence in which they said, "We hold these truths to be self-evident. . .that they (all men) are endowed by their Creator with certain unalienable rights, that among these are life, liberty and the pursuit of happiness."

If we can make such a drastic change in our country's principal administrative office through the peaceful efforts of men willing to debate the issues publicly, why can we not accomplish the same in many of the labor-management negotiations being conducted in both large and small companies throughout the nation?

We feel that every company and working man should be able to enjoy 'life, liberty and pursuit of happiness' without ever having to fear violence as a necessary ingredient to solving labor-management disagreements.

It was good news to us when we learned that Rep. John B. Anderson (R-Ill.) has introduced legislation making it a federal crime to use force or violence in a labor management dispute. If passed, it will mean that negotiations will be peacefully resolved and that everyone will be permitted to operate a business or earn a living without being coerced by fear of violence.

What has prompted Rep. Anderson to take this legislative course? Two things. First, situations such as the over 170 documented acts of violence committed against members of the Associated Builders and Contractors, Inc., an organization of non-union building contractors, in the last few years. Secondly, a 5-4 Supreme Court decision in February, 1973 which ruled that the Hobbs Act prohibited only the "illegal" use of force in labor-management disputes. The Court held that violence which occurs during a legal strike called to achieve legitimate collective bargaining goals is not a violation of federal law.

The Hobbs Act defines extortion as the use of violence to coerce someone into unwillingly giving up property. The majority of the court interpreted this to mean that the Act proscribed the use of violence only if it were for the purpose of gaining illegal ends such as kickbacks or pay for unnecessary work.

The dissenting minority, through Justice Douglas, disagreed, stating that there was simply no question that even legitimate wages and benefits were "property" within the meaning of the Hobbs Act, and that violence to obtain such property must, therefore, be considered extortion covered by the Act.

Therefore, Rep. Anderson is introducing his amendment (HR 8580) to the Hobbs Act which has three simple goals:

1. The willful damaging or destruction of property to the extent of $2,000 or more shall be punishable by a $10,000 fine or 20 years in prison, or both.
2. No violation of the Act shall be mitigated merely because it occurred during a legitimate labor-management dispute.
3. Extortion is redefined to make all violence illegal even though it may also be covered by state law and even though it occurs during a legitimate dispute which in itself is in pursuit of legitimate ends.

Anderson points out that the amendment is not intended to abridge the rights of workers to organize or to interfere with the process of ordinary collective bargaining. It is, in his words, not anti-union, but anti-violence. And, he explains, it will not create a bargaining advantage or disadvantage for either labor or management. It is solely intended to deter the willful damage and destruction which has been on the increase during recent work stoppages.

We applaud Rep. Anderson's effort to solve the problem of violence that has plagued hundreds of strike situations throughout the United States in recent years. . .accomplishing little, if anything, in achieving prompt and equitable agreements. Violent action hurts both sides of the dispute and leaves a bitterness that is hard to resolve even after a settlement had been reached.

We at Mueller believe in the rights of labor and of management. We have had strikes in our plants. But there has never been a hint of violence on the part of our employees. And management has always tried to be completely fair. But we appreciate the problems of those who are the victims of the type of violence Rep. Anderson wants to deter, many of whom are closely involved in the marketing areas served by Mueller.

We understand that Rep. Anderson has obtained a promise from Rep. William Hungate (D-Mo.), Chairman of the Subcommittee on Criminal Justice of the House Judiciary Committee, to hold hearings on this amendment later this year.

We strongly urge you to write Rep. Anderson and/or your local U.S. Representative to relate your feelings on this important legislation and to request that he work for an early hearing date for the amendment.

Our ever spiraling economy this year has caused more than its share of strikes. As a consequence, violence has increased. Let's work to let labor and management settle their differences at the bargaining table without the threat of force or violence over the head of either side.

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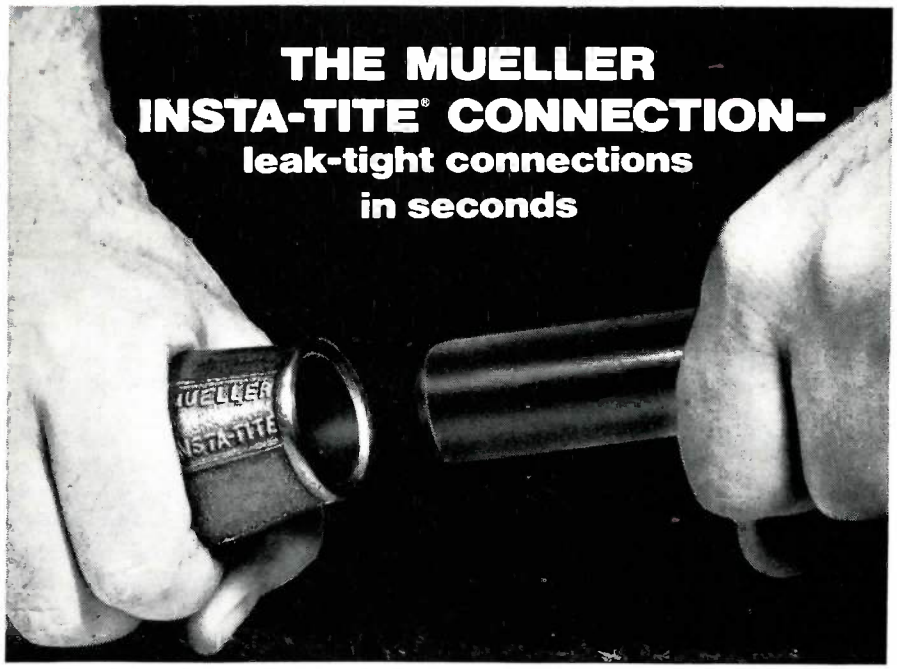

Simply bevel the end of the plastic pipe, and stab it fully into the connection. There's no flaring, no cementing, no threading, no nuts to tighten or liners required.

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