

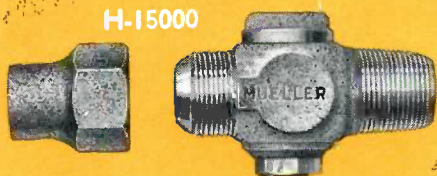
MUELLER RECORD



JANUARY • 1950 • FEBRUARY

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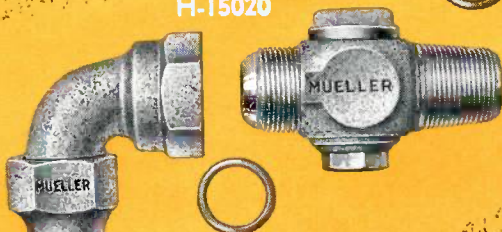
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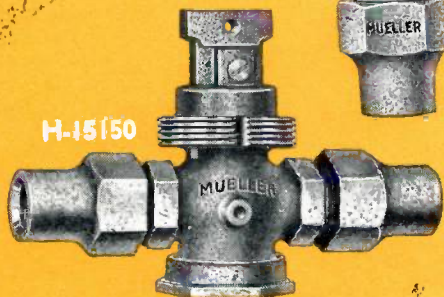
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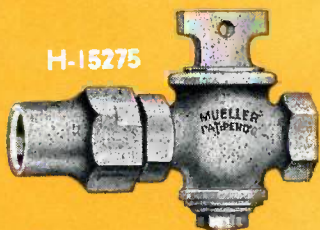
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H-15275



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January • 1950 • February
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GENE J. KUHN, Editor

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COVER

Gustav Anderson
Amityville, New York



MOSTLY PERSONAL

IN HIS MEMOIR on America's first automobile race at Chicago in 1895 (see page 9), Charles B. King, the umpire assigned to the Mueller car, tells how he finished the race with Oscar B. Mueller, the driver, unconscious at his side. Earlier in the race the observer, Charles G. Reid, also had succumbed from exhaustion and exposure.

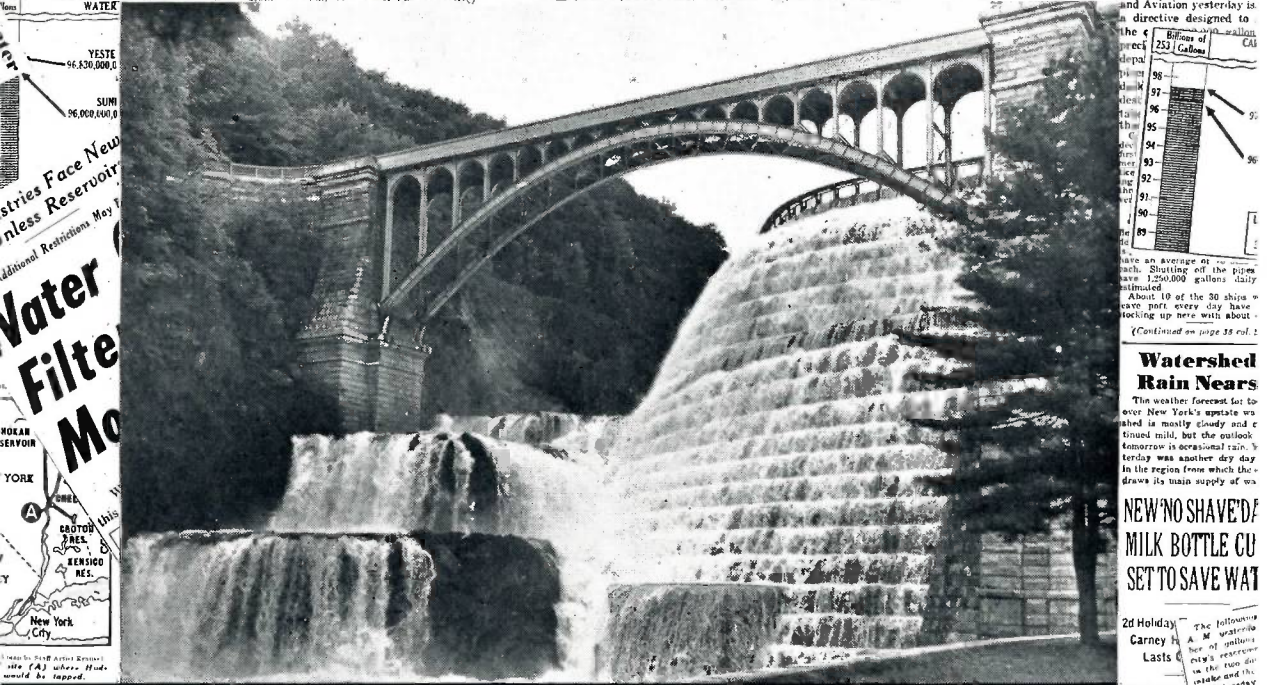
The official distance of the route over which the race was run was 52.4 miles, a distance which today could easily be covered in much less than an hour in perfect comfort. Possibly 55 years from now our streamlined cars will appear just as crude to that generation as the 1895 "motocycles" seem to us.

That's the trouble with history: it makes events of the present seem as transitory as telephone poles viewed from the window of a fast train. (We started to make this phrase "as transitory as a snowball in you-know-where," but this is a family magazine, after all.)

We are looking forward to meeting Mr. King at his home in Larchmont, New York, before publication of the second article on the race in our next issue. Mr. King, a hale and hearty 82, has collected a vast store of material on

(Continued on page 20)

Water Waits on Sta Hudson Tap Wins Okay Despite Poughkeepsie
Make Mine Water, New Yorkers Cry
Water to Save 2 Million Gallons Daily
Watershed Rain News
New York Feels Full Scale Water Shortage
Water Scarcity Old Story In West
New Dry Days Planned Water Holiday
Water Up as Public Saves As Water Supply Sinks
Set for Friday
No Bath Has
As Peril Grows



Water Waits on Sta
 By CHARLES McHARRY
 A public hearing which brought no...
 Board of Estimate yesterday approv...
CAPACITY OF NEW YORK CITY WATER
 YESTERDAY 66,530,000
 SUM 96,000,000
Water Filter
 Additional Restrictions May Be Imposed

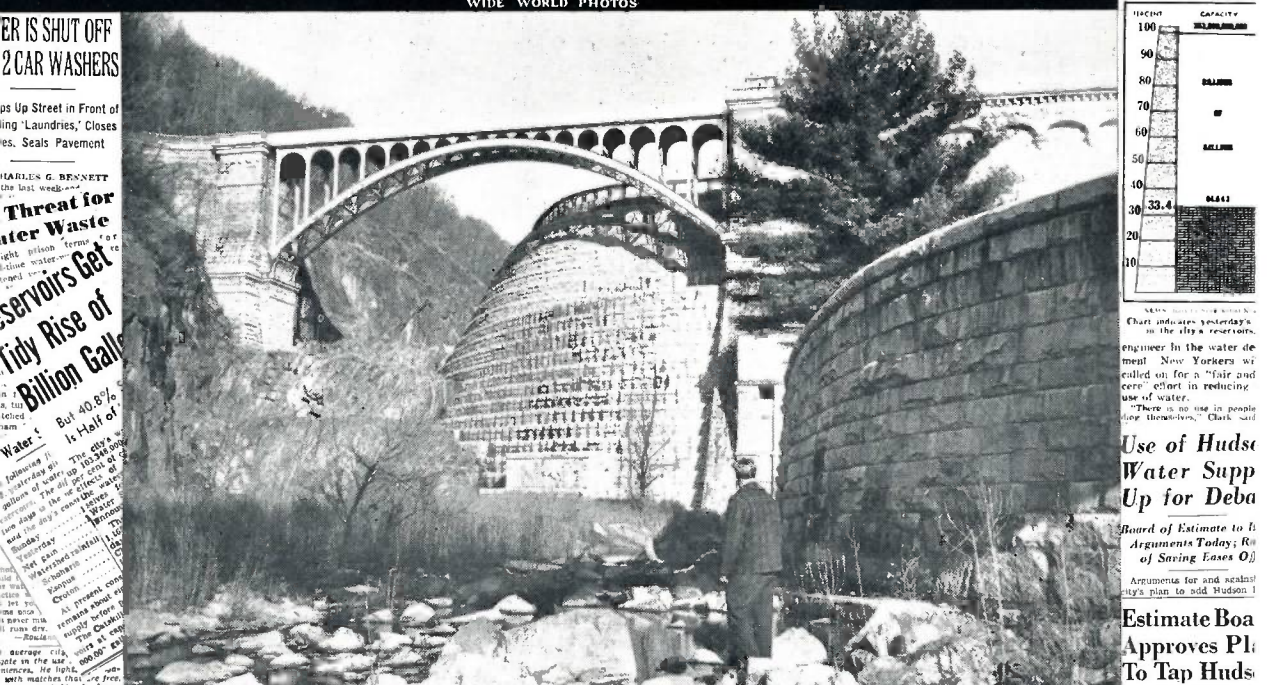
Hudson Tap Wins Okay
 Despite Poughkeepsie
 Over the hot protest of Poughkeepsie, the Board of Estimate yesterday approved the Hudson River water supply project.
 By CHARLES McHARRY

Make Mine Water, New Yorkers Cry
 The department of public works today announced that it will close the first three days of the water holiday.
 In the ban on car-washing and other official violations on auto-washing, the department announced via a sign that it will close the first three days of the water holiday.

Water to Save 2 Million Gallons Daily
 By Charles McElderry and Harry Scherzer
 The Department of Public Works today issued a directive designed to conserve water during the water holiday.
 The department estimates that the city will save 2,000,000 gallons daily by following the directive.
 About 10 of the 30 ships in the harbor today have water on board for the water holiday.
 (Continued on page 38 col. 1)

New York Feels Full Scale Water Shortage

In the good old days New York's Croton Reservoir had more water than it could handle. Today the spillway is dry and the reservoir proper holds only a fraction of its capacity.



Water is Shut Off
2 Car Washers
Threat for Water Waste
Reservoirs Get Tidy Rise of Billion Gallons

Watershed Rain News
 The weather forecast for the New York's future was mostly cloudy and a few showers, but the outlook for tomorrow is occasional rain. Yesterday was another dry day in the region from which the Croton draws its main supply of water.

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This photograph shows a section of Croton reservoir in Westchester county, New York. This area in normal times is completely flooded, but due to lack of precipitation and heavy drainage was virtually bare when the low water point was reached December 12. The stones are sections of fences which divided property lines in the days before the area was flooded to form the reservoir.

SAVINGS IN WATER consumption by New York's millions halted a dangerous decline in the storage contents of the city's reservoirs, which on December 12 had shrunk to only 33.4 per cent of capacity, and although the situation still is critical, the contents now are slowly moving upward while efforts are being made to secure new supplies.

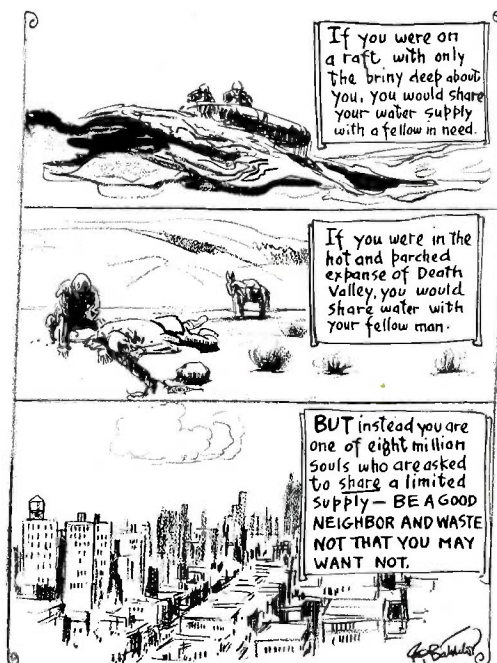
The water shortage, the Board of Water Supply points out, is due basically to two factors: high consumption and low rainfall.

Consumption from municipal supplies had been increasing at a rapid rate since 1942, when 868 million gallons a day were supplied to the city and outside communities which have connections to city supplies. In 1948, consumption had risen to 1,160 m.g.d., an increase of 292 m.g.d. in six years.

The city is able to supply the demand for water with safety only so long as consumption remains less than dependable supply. Dependable supply for New York has been fixed at 1,015 m.g.d., the amount of water which can be obtained from all sources during a drought period.

But, beginning with 1946, when consumption rose to 1,073 m.g.d., consumption was above the dependable supply and only the fact that rainfall was better than the minimum prevented the city from being faced with today's shortage in 1946, 1947, and 1948.

Rainfall in 1949 was nearly eight inches below normal. This, combined with a high consumption, which averaged



C. D. BATCHELOR, THE NEWS
Mr. Batchelor's editorial cartoon accompanied an editorial in The News which has become something of a classic in water conservation literature: "Don't Flush For Everything."

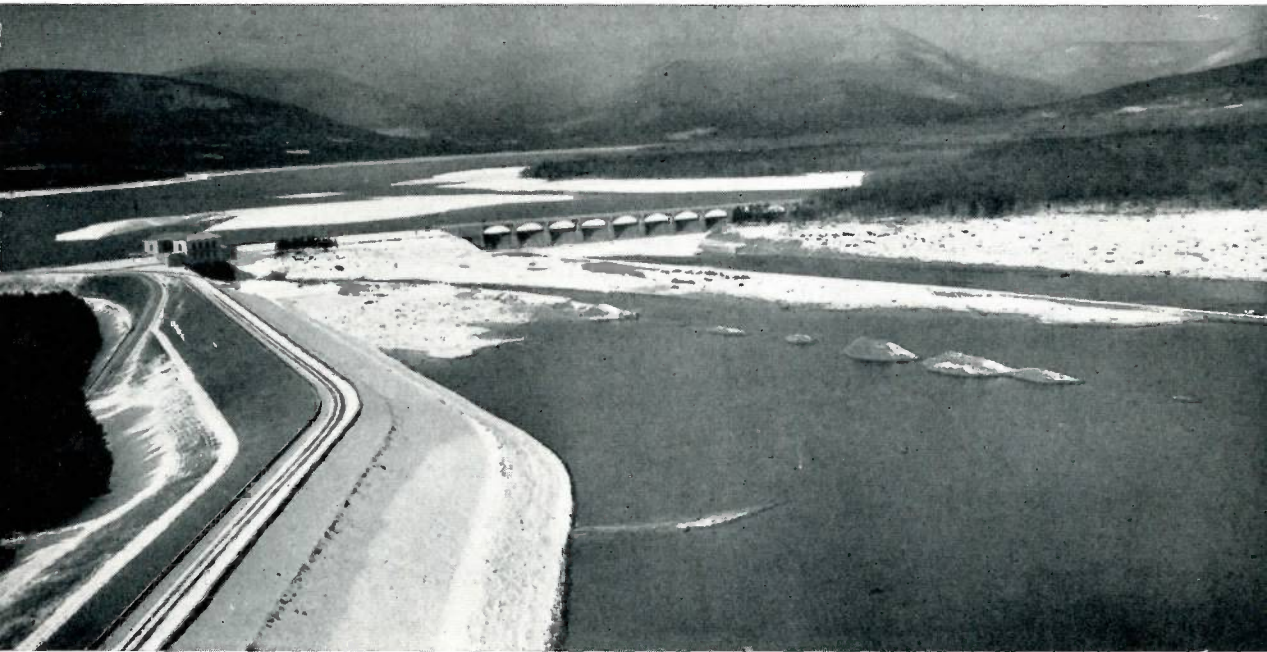
1,220 m.g.d. for the six months June to November, produced the present shortage. On June 1, 1949, impounding reservoirs were at more than 99 per cent of capacity. From that date on the reservoir contents dropped steadily until mid-December, when storage was down to 84,600,000,000 gallons. Capacity of the reservoirs is 253,136,000,000 gallons.

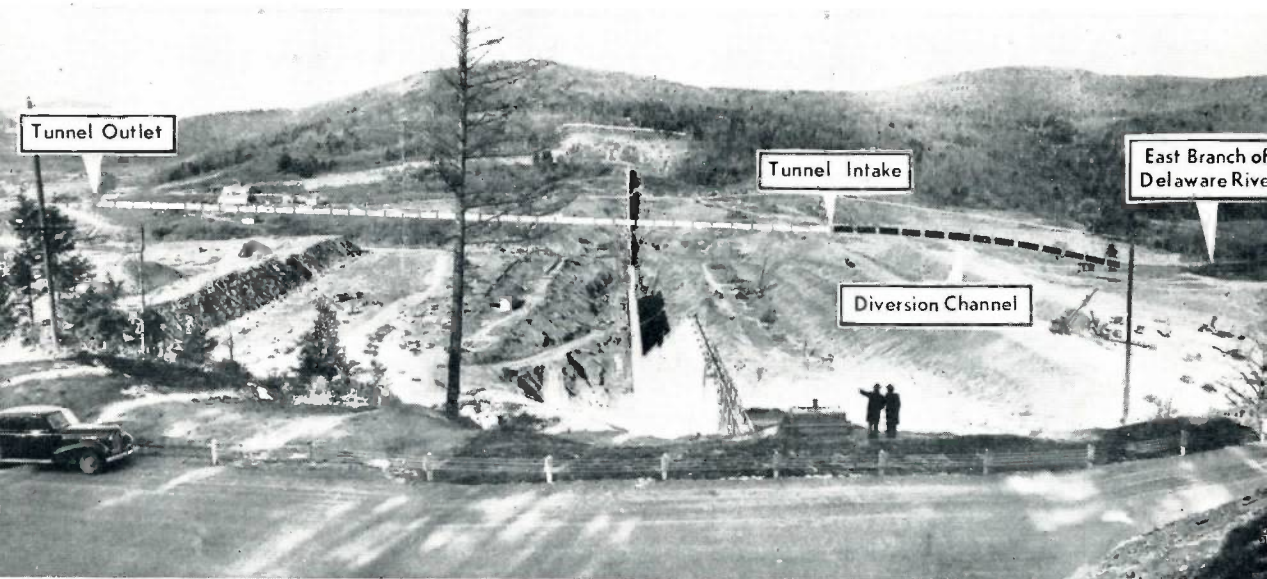


Old roads, used by residents of the area before it was turned into Kenisco reservoir, were made visible by the low water level. Kenisco, Ashokan and Croton reservoirs are New York's main source of supply. Goal is full reservoirs by June 1 to meet the city's high summer demand.

Ashokan and Kenisco Reservoirs at Lowest Levels

This general view of the Ashokan dam and reservoir shows vividly the mid-December low water level at the reservoir (left), which was down to only one-third of its capacity. In normal times, thousands of gallons of water rush through the spillway under the bridge (center background.)





This Will Help—in 1955

THE SKELETON construction phase of the new dam across the east branch of the Delaware river, Downsville, New York, is illustrated in the composite panoramic view above. The dam, expected to be completed in 1955, will create Pepacton reservoir, which will provide New York City with an estimated 340,000,000 gallons of water daily.

Its use will materially aid in alleviating the city's shortage, but officials doubt that Pepacton reservoir will be the ultimate answer to New York's water problem in view of increasing population and constantly increasing demand.

The Delaware river branch, extreme right in the composite photograph, has been guided into a diversion channel (black dotted line) and then through a 2,250-foot tunnel (white dotted line) to permit work on the dam in the river. The concrete cut-off wall in the center of the picture will form the core of the dam. Earthen coffer dams (right and left center) were built to keep high flood water from flooding the working area. When completed, the east branch of the Delaware will be contained by a 200-foot high rolled earth dam, almost a half-mile long.

At the right is a close-up of the diversion tunnel at Downsville dam. Mouth of the tunnel is the largest in the east, measuring 40 feet high and 45 wide.



Baltimore Takes a Big One Underwater

by J. S. Strohmeier
Deputy Water Engineer, Bureau of Water Supply

One river crossing of 48-inch water main completed; dredging operations underway for a second section.

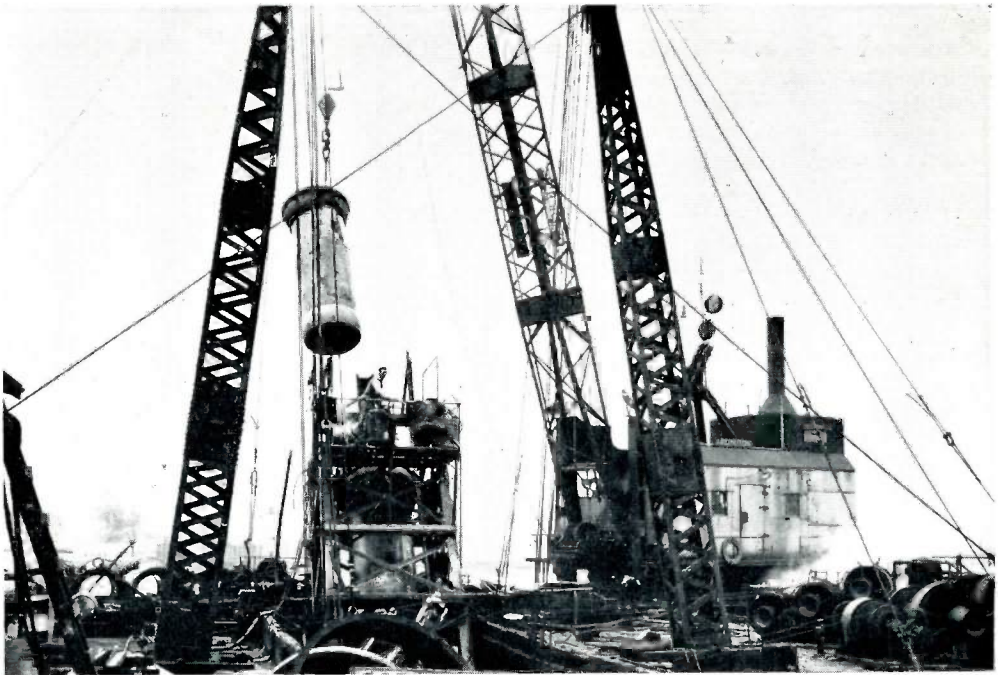
THE CITY OF Baltimore currently is engaged in augmenting the water supply to the Brooklyn-Curtis Bay area of the city with a 48-inch cast iron water main, the entire length of the installation being 18,430 feet and requiring two underwater crossings of the Patapsco river. This section now is supplied through a 30-inch cast iron water main, which for some time has been inadequate to supply the area.

This area's need for additional water supply has been due to the industrial growth of the city, caused by the expansion of industries during the war, and to the failure of the underground water resources in the Baltimore area.

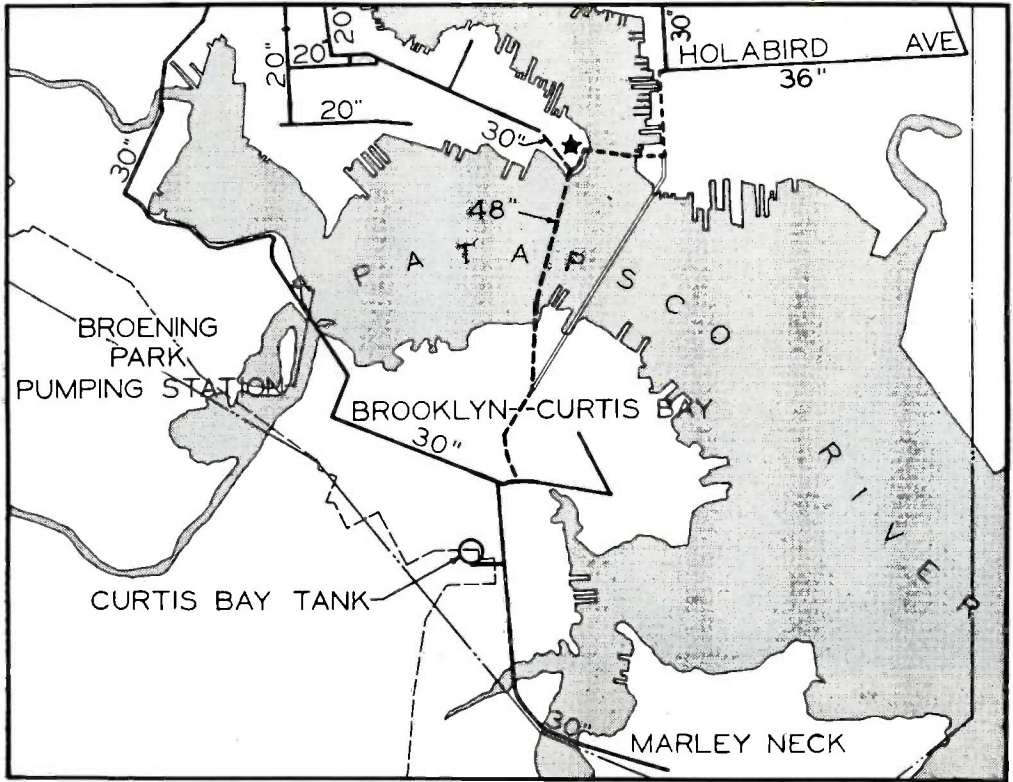
The installation has been planned for a long time. As originally designed, the Patapsco river crossing was from the foot of Clinton Street to the foot of Childs Street, shown by the light line on

the location plan. This would have been a more direct route and would have required only one underwater crossing. However, the change was necessitated by the federal government closing Childs Street in the Brooklyn-Curtis Bay area.

Installation of the main across the northwest branch of the Patapsco river was completed last year, and the contractor just has started dredging operations for the section across the main stream of the Patapsco river, south of Fort McHenry, location of which is shown by the star on the map. A total of 10,700 feet of the installation is now under contract, the section under contract including 6,960 feet of metropolitan join Class D cast iron pipe, weight per length 12,700 pounds; 3,740 feet of 48-inch concrete cylinder pipe; and 1,800 feet of 30-inch Class B pipe in Fort McHenry.



A view from stern end of cradle scow, showing joint pouring equipment on top platform and nail driving and caulking crew on lower platform. Each length of pipe weighed 12,700 lbs.



Dotted lines indicate the two Patapsco river crossings of the 48-inch water main. Star indicates Fort McHenry. Light line shows originally planned route of the Patapsco crossing.

Work was started on the first phase on July 5, 1949, at the Lazaretto Depot of the U. S. Coast Guard (foot of Mertens Avenue) by driving five guard piles to protect 12 33,000-volt submarine cables which were located immediately south of the proposed water main crossing. The elevations of the water main being somewhat lower than those of the cable, it was necessary therefore that care be exercised during the dredging operations.

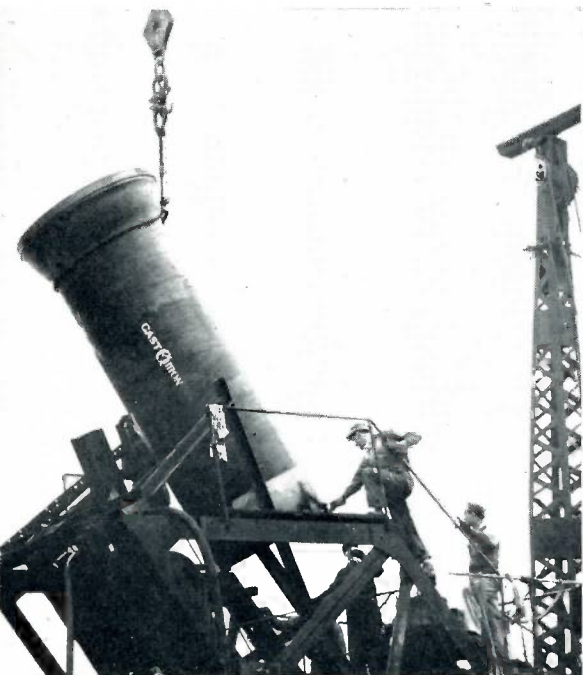
Due to the lack of operating space at this location it was impossible to employ ordinary methods in dredging from the beach to a point approximately 180 feet offshore. This work was done by a marine crane and clamshell bucket, working from off shore towards the beach, and casting the spoil behind to be picked up later by the dredging machine and loaded onto dump bottom scows.

On July 18, 1949, the dipper stick dredge "Governor Warfield," having a bucket capacity of 9.5 yards, started dredging at the Fort McHenry side of the river. This dredge was brought to

Baltimore from New York, expressly for the purpose of dredging the extremely hard clay found at this location. On July 25, a second dredge, "Defender," with a 7.5 cubic yard clamshell bucket, started dredging at the Lazaretto side.

From boring data it was found necessary to support the 48-inch metropolitan cast iron pipe line on a pile-supported wooden structure for a distance of 1,425 feet of the total distance of 1,955 feet. The width of the bottom of the underwater trench was maintained at 20 feet, and as the depth of this trench varied from 17 feet to 35 feet, it was necessary to slope accordingly. Approximately 130,000 cubic yards of material were removed.

At each side of the river, cofferdams of interlocking steel sheet piling were constructed in order to make up the transition joints between the 48-inch standard lock joint cylinder pipe and the 48-inch metropolitan joint pipe, the point of junction being at or below elevation 00'. Although the plans did not call for



The spigot end of a pipe is shown entering cradle to join with bell of preceding length.

a supporting structure for the vertical curves and the down grades near the shore lines, the contractor elected to construct the additional structure at his own expense in order to facilitate the laying of the pipe. Due to the hardness of the river bottom at the Fort McHenry side, steel H piles and steel H girders were used in place of the wood structure and extended on a 28 per cent grade for a distance of approximately 130 feet.

The laying of the sub-aqueous metropolitan joint pipe from the surface of the river entailed a large amount of rigging equipment. The cradle used to transfer the pipe from above the surface of the water to deposit it on the structure or on the river bottom was suspended from two gin poles mounted on two scows, which were held parallel to each other by beams and cables, approximately 10 feet apart. The length of the cradle while laying pipe 52 feet below the surface was about 125 feet, the upper or straight portion of which making an angle of approximately 40 degrees with the vertical. The bottom or curved sections were so constructed that the 12-foot lengths of flexible joint pipe, which were designed for a 13-degree maximum joint deflection, deflected only 10 degrees



Flexible joint with bottom third nailed and caulked, and nails set in top two-thirds.

before leaving the cradle. At a point about 15 feet below the upper end of the cradle, a level platform was built to accommodate a lead pot and a small storage of lead, and at the top of the cradle and under the entering orifice was a small steam winch, used to allow the pipe to slide down slowly after the joint had been poured.

At a lower level, 60d nails, four inches in length (head end removed) and spaced at 1-inch intervals, were driven into the joint. The nails on the bottom third were driven home by means of a pneumatic tool and nail guide, after which a caulking tool was applied to the bottom third. Final driving and caulking of the top two-thirds was not done until the pipe had left the cradle and was at rest on the structure.

It was found by experience that if the entire joint had been completely nailed and caulked, the joint would not flex.

In conjunction with the final nail driving and caulking, 1¼-inch round galvanized steel U straps were used to tie the pipe to the timber structure.

The contractor on this project is the McLean Contracting Company of Baltimore.

CHARLES B. KING, inventor and pioneer in the automotive industry, was assigned as umpire in the Mueller car entered in America's first automobile race, November 28, 1895, at Chicago, and the following account, written on the eve of his eighty-second

birthday, February 2, tells of his experiences in the race. Mr. King's own car was the first to be driven on the streets of Detroit, now the automobile capital of the world. Mr. King is a recognized authority on the race and the history of the industry as a whole.

A Memoir on the Great Auto Race of 1895

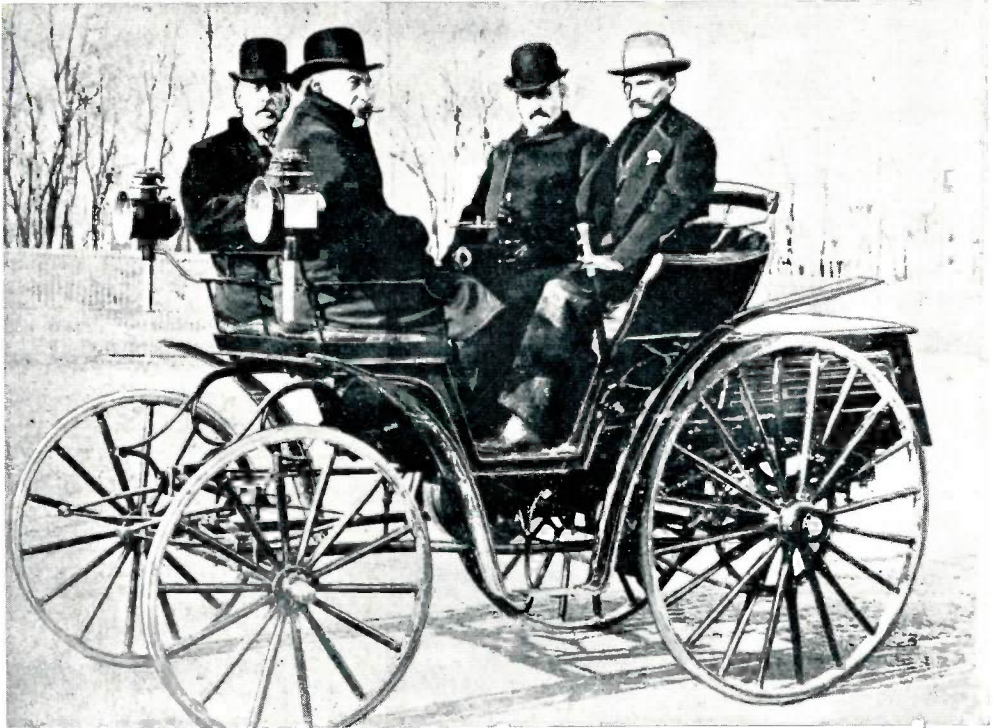
by Charles B. King

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MY NAME APPEARED in the first list of entries as published by *The Chicago Times-Herald*, August 24, 1895, in connection with the pioneer automobile race of 1895, for I sent in my name as soon as I read of the proposed event. At that time I had been working for nearly a year in Detroit on a "horseless carriage" and hoped at this time to have it ready for the contest in November. I was the only entrant from Michigan, now the greatest automobile state. By

mid-August, I decided that for lack of time and money, I could not be ready and later withdrew my name. In fact, not one of these first ten entrants managed to appear in the race.

However, being firmly convinced that horseless carriages were on their way and coming strong, I went again to Chicago full of hope for the test of November 2; but was disappointed to see only a few competing cars, where I had hoped to see a dozen or more. Thereupon the



This Mueller-Benz car won second prize in the race. Charles B. King, the umpire, drove the car across the finish line after Oscar Mueller, extreme right, became unconscious.



"Steering gear trouble" kept Max Hertel's motorcycle out of the November 28 race. It had two bicycles for a chassis and a two-cylinder engine. The Hertel was the smallest gasoline car entered.



Haynes-Apperson entered this auto, which had its wheels smashed in the car tracks on the way to the starting line and therefore did not compete. Charles B. King is standing in front of the car.



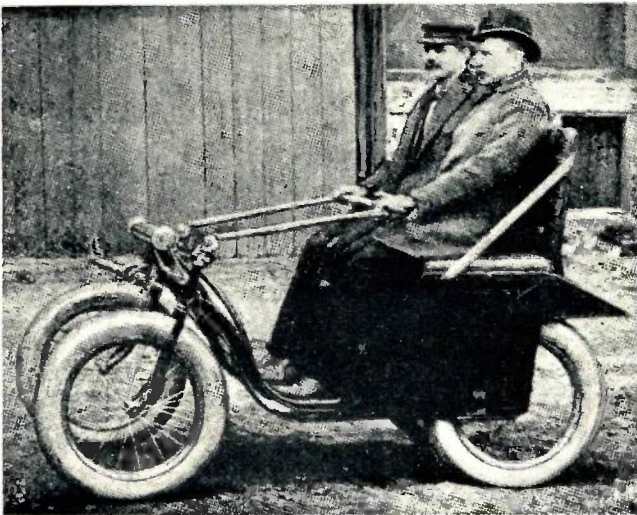
The A. C. Ames car, having a two-bicycle chassis and a sleigh body, was steam powered. The car was "steamed up" at Chicago and ran a few hundred feet indoors, thus qualifying as operative.

Some Entries in America

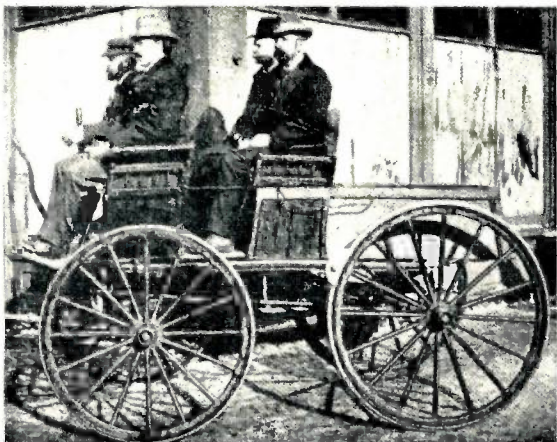
Photos Courtesy

IN MAY, 1895, H. H. Kohlsaas, publisher of *The Chicago Times-Herald*, happened to pick up a copy of *L'Illustration*, which carried an account of an automobile race run a few weeks earlier between Paris and Bordeaux. The article gave him an idea, and when he returned to his office he called in Frederick U. Adams, handed him the French publication and suggested that *The Times-Herald* sponsor a horseless-carriage race. The reporter was enthusiastic over the circulation-boosting possibilities of the idea, and immediately drew up a plan for such a race, which Mr. Kohlsaas approved and published. *The Times-Herald* offered \$5,000 in prize money, and the date of the race was set for the Fourth of July, 1895.

The announcement attracted wide interest, and some sixty contestants filed entries, but since only one horseless-carriage—the Haynes-Apperson—showed up for the race, it was postponed to Labor Day. However, in August it was agreed to advance the date again to November 2. In its issue of August 24, 1895, *The Times-Herald* published a list of ten firms and inventors who had "complied with the rules of the contest and made formal entry of their motorcycles," including Charles B. King, who planned to enter his four-cylinder, four-cycle car. The newspaper reported it had been in correspondence with 76 others, "most of whom have written they intend to compete." The newspaper described the cars as "motorcycles."



E. J. Pennington's "Victoria" was given short runs at Chicago, but never arrived at the starting line of the race.



Harold Sturges, at the right in the front seat, entered this electric car, which was one of the starters. On Sturges' left is Mr. King, who had ridden with him at the 1893 Columbian Exposition.



This Macy-Benz, entered by R. H. Macy, had a series of accidents during the race and finally broke down. It received an award of \$500 for showing made in the race, as did the Sturges.

First Automobile Race

Charles B. King

It became evident that entries would again exceed active participants for the November 2 race, and the judges therefore recommended that the contest be postponed to November 28. *The Chicago Times-Herald*, in order to avoid disappointing the public, announced an "Exhibition Run" for November 2 with a prize of \$500 to be equally divided among the motorcycles making the run from Chicago to Waukegan and return within a thirteen-hour time limit.

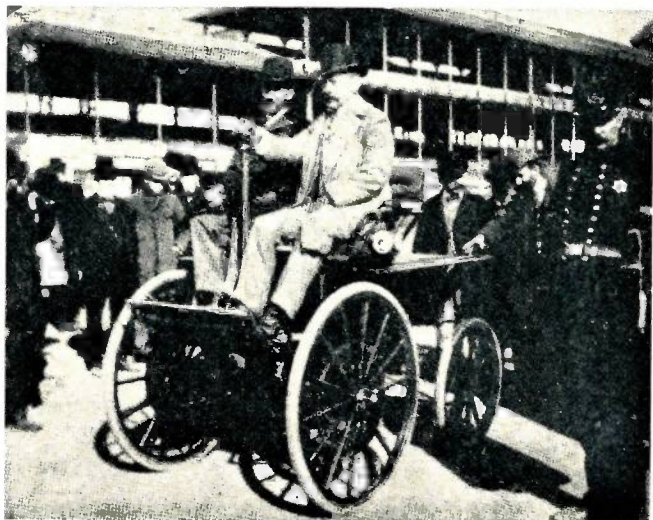
Only two cars participated in the November 2 run—the Mueller entry, driven by Oscar Mueller, and the Duryea car, driven by J. Frank Duryea, who was accompanied by his brother Charles. Frank Duryea was forced into a ditch, damaging the steering-gear and rear axle of his car, and he was unable to continue. The Mueller car completed the run, a distance of 92 miles, in 9 hours and 22½ minutes, well within the time allowed, and Oscar Mueller was awarded the entire purse.

On the evening before the November 28 contest, America's first automobile race, eleven competitors declared they would start. Six actually started the next morning, and only two—the Duryea and the Mueller—crossed the finish line. The Duryea received first prize of \$2,000, and the Mueller entry was awarded second prize money, \$1,500. Average speed of the Duryea car in the race was 5.05 miles per hour; for the Mueller car, 4.87 miles per hour.

Morris and Salom Electrobat, driven by Henry G. Morris, started the race, but developed trouble and could not finish.



The G. W. Lewis car, designed in Chicago, was one of many entries which failed to appear at the historic race. The Lewis car was kept in seclusion and was not seen at any race gathering.



judges postponed the big race until November 28; but provided a consolation prize of \$500 for a preliminary run from Chicago to Waukegan, Illinois, a distance of 98 miles. Only two cars started—the Mueller-Benz and the Duryea. However, on a hill, J. Frank Duryea met with a damaging highway accident, and Oscar B. Mueller won first honors in good time, the only car to cover the course. Distance, 92 miles; official time, 9 hours, 22½ minutes; average speed, 10 miles per hour.

My journey was not entirely time lost, however, as I seized this opportunity to inaugurate the first automobile association in the world—the American Motor League. A preliminary meeting was held, and steps then taken which resulted in the formation of the league and election of officers when next we gathered in Chicago after the final run of the great race.

My enthusiasm was shown by two trips from Detroit to Chicago and my early entry; and my vision in forming the Motor League, after the race, no doubt, gave me publicity. Umpires were allot-

ted to cars by the race committee earlier at its own discretion, in order to secure impartial reports. Being assigned to the Mueller car, No. 19, shortly after the race started, I waited for that car and its driver, Oscar B. Mueller, at the starting line near the historic Midway Plaisance. When he did not arrive on time, word went out that his car had broken down in the heavy snow. When he arrived at last, he said he had been having trouble with the new leather belts of the transmission. This I then corrected. We got away in good order at 10:16 A. M., more than one hour behind Frank Duryea's car.

Cold, hunger and fatigue wore us all down. Oscar Mueller had missed breakfast entirely, and we had nothing all day except three sandwiches which I had tucked into my pocket before starting. Observer Charles G. Reid of Chicago was first to weaken. After 35 miles, which included many hand-pushing jobs for both of us, he was lifted from the car unconscious and taken away in a sleigh for "first-aid." Oscar Mueller bravely continued driving through the snow and



The Duryea car won the race's \$2,000 first prize. J. Frank Duryea designed, built and drove the car. Seated at Duryea's left is Umpire Arthur W. White of Toronto, Canada.

sleet for about two hours more until he, too, weakened.

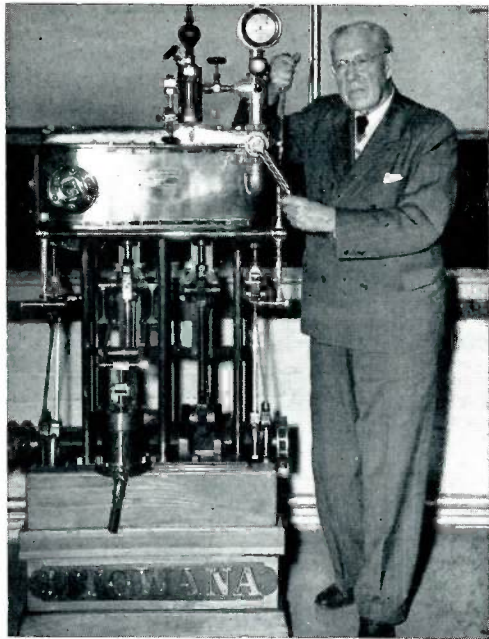
About at Halstead Avenue near Garfield, an hour from the finish line, Oscar slumped unconscious into my arms. Taking the controls, I linked my arms in his and so held him against my side while my hands were free to steer and change speeds. I changed course somewhat to negotiate the safest route, even though it was somewhat longer, to the finish line, where we arrived at 8:53 P. M. Oscar Mueller, still unconscious, was lifted out of the car in the rain and carried away in a hack. I drove the car under a bridge for shelter, then hurried off to the Hotel Del Prado for a belated Thanksgiving dinner.

Some question was then raised as to the propriety of an umpire driving a car, particularly over the finish line; but inasmuch as the inclement weather had forced nearly all drivers and occupants to infringe upon the regulations somewhat in order to keep their vehicles going, the judges ruled that the Mueller car had finished second and it was awarded \$1,500 second prize money.

After the race nearly all those concerned joined the pioneer American Motor League, of which, at the first meeting following its formal organization, I was elected treasurer. No doubt, Oscar Mueller would have become a charter member, but he was in a hospital for a week as the result of his harrowing experience. While there he had the satisfaction of learning that the Mueller entry had come in second.

The car I had hoped to enter in *The Times-Herald* race was later sold to Byron J. Carter of Jackson, Michigan, and became the foundation of the Cartercar, a well known early make. After that, I built a second car which was the first self-propelled vehicle to appear on the streets of Detroit, where I operated it successfully on March 6, 1896. Thus was Detroit introduced into the automobile age which saw that city become the world center of our greatest industry.

In 1945, *The Times-Herald* race was re-run in a Golden Anniversary celebration sponsored by the Chicago Museum of Science and Industry. J. Frank Duryea and myself were the only participants present of only three then sur-



Charles B. King beside an engine from the steam yacht "Utowana" in the King museum.

living. As we drove over the course we talked of the changes that had been wrought in the City of Chicago and in the nation by the automobile industry, which we had a part in founding, along with the other pioneers who have since passed on. One of the most outstanding of these was Oscar B. Mueller, my companion in the great race and a man of sterling qualities long to be remembered. Major Lenox Lohr, director of the museum, deserves much credit for the 1945 reenactment of the race.

After the award of \$1,500 was made to the Mueller car for coming in second, Hieronymus Mueller generously offered half of this prize money to me, and although money was an object in those days, this was refused. But in its stead a gold medal was presented to me by the H. Mueller Manufacturing Co., and grand old Hieronymus said he wished that I would always wear it, but it was too heavy and ornate for a modest person to carry on his vest. However, his sincere thanks were expressed just the same.

* * *

The second of two articles on the 1895 automobile race will appear in the next issue of the *Mueller Record*.

THE NEW MUELLER® T MACHINE



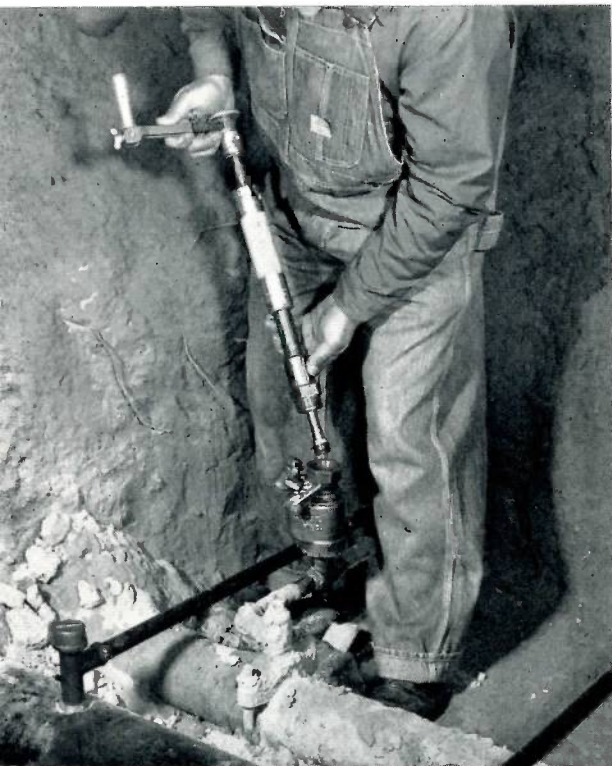
THE NEW MUELLER T drilling machine with control chamber has been developed for drilling, stopping and plugging operations under pressure with Mueller No-Blo service tees and service line stopper fittings, meeting a demand for a light weight machine to be used in the small size range (sizes $\frac{3}{4}$ " through $1\frac{1}{4}$ " tees and fittings).

The machine is direct, hand-operated, simple in construction, and easy to handle. The necessary operating range for drilling and stopping is provided by a novel combined feed tube and yoke. The feed travel is $4\frac{5}{8}$ " and

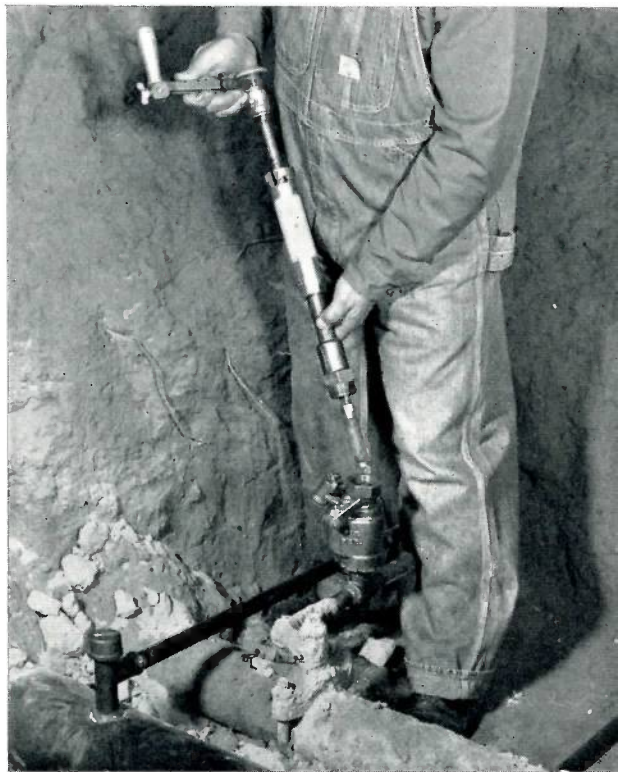
the total boring bar travel is $11\text{-}\frac{5}{16}$ ". The feed yoke can be easily disengaged when desired. Drills and shell cutters are available in sizes from $\frac{1}{4}$ " through $1\frac{1}{8}$ ". The machine may be used with pressures up to 100 p.s.i. at 250 degrees F.

The Mueller T machine is furnished complete with the H-17025 control chamber, which provides an excellent valve arrangement, having a quick, easy-operating, positive shut-off. This makes it possible for drilling, stopping and plugging operations to be carried on in complete safety without any loss of gas.

• • for **DRILLING, STOPPING, PLUGGING**



The Mueller T drilling machine is here being used to insert a plug in line stopper fitting.



Rubber stopper ready for insertion through the Mueller T machine's control chamber.

The position of the lever handle on the chamber clearly indicates whether the valve is open or shut. A rugged by-pass valve affords a means of equalizing pressures above and below the main valve gate and also to exhaust gas to the atmosphere to test service connections before removing the machine.

The control chamber is furnished with three adapter bushings for use with Mueller No-Blo service tees and service line stopper fittings. This eliminates the need for carrying three different sizes of gate valves and machine adapters when working with service tees and line stopper fittings—no small item for gas companies whose distribution crews handle a large volume of service connections.

Through the use of the threaded adapter bushings, which lock securely in the bottom of the control chamber, the machine can be used on Mueller No-Blo service tees, sizes $\frac{3}{4}$ " and $1\frac{1}{4}$ "; service valve tees, size 1"; and service

line stopper fittings, sizes $\frac{3}{4}$ ", 1", $1\frac{1}{4}$ ".

The T machine may also be used without the control chamber to drill Mueller Save-a-Valve drilling nipples in sizes 1", $1\frac{1}{4}$ ", and $1\frac{1}{2}$ ". In such cases gate valves and machine adapters are required, and a reducing bushing is necessary in the 1" size.



H-17025
Control Chamber

The control chamber has been designed so that it may also be used with the popular Mueller E-4 drilling machine. Both the Mueller T and E-4 machines may be threaded directly into the top of the control chamber, and the valve-saving feature, using the three adapter bushings, also applies when it is used with the E-4 machine.

The control chamber is made entirely of brass and heavy cast bronze. It is recommended for pressures up to 100 p.s.i. with a maximum temperature of 250 degrees F.

Size and pressure capacities make it possible for the Mueller T machine to be used on a wide variety of jobs.

How It Started

William Murdock, British engineer, founded an industry in 1792 when he put manufactured gas to practical use.

THE HISTORY of the gas industry may be traced back to the days of the alchemists, who by accident produced an inflammable "spirit" by heating coal in a closed retort as they sought the philosopher's stone. However, William Murdock, a British engineer and inventor, has been credited as the industry's founder, and the year 1792 set as the date of its founding.

Murdock, so far as can be determined, made the first practical use of gas. This distinction sets his work apart from that of many others, notably John Baptist van Helmont, who gave gas its name.

It is difficult to guess at the number of alchemists, scientists and pseudo-scientists who had stumbled across the process of obtaining gas from coal in their laboratories. However, until Murdock's time it was generally regarded as

some mysterious manifestation outside the ken of laymen, and the process was a closely guarded secret.

What prompted him to begin his experiments in manufacturing gas is a matter of conjecture. Perhaps by observing the coal fire burning on its grate in his cottage at Redruth, in Cornwall, he was led to believe that a combustible gas was given off. At any rate, his experiments had advanced to the point that about 1792 he is said to have lighted his cottage and office with gas.

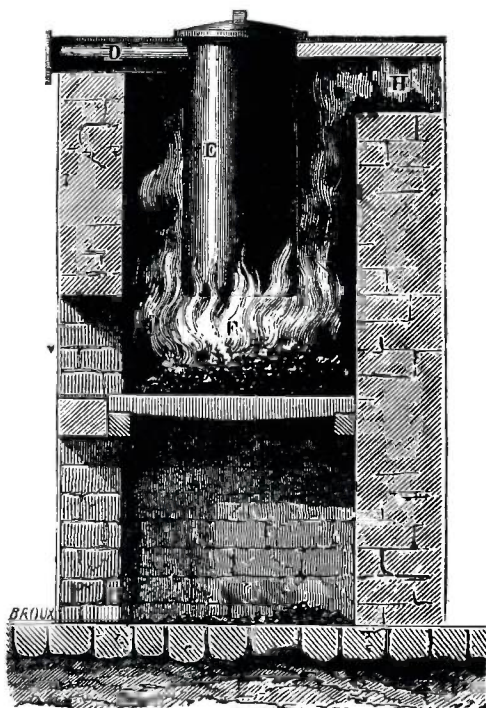
Murdock, who learned the millwright's trade from his father, is perhaps as well known outside the gas industry for his improvements to James Watt's steam engine and his own invention of an oscillating engine and his pioneering efforts in devising a steam locomotive.

He apparently was an eccentric of



BETTMANN ARCHIVE

A portrait of William Murdock, founder of the gas industry. Murdock, a millwright by trade, also is credited with making important improvements to James Watt's steam engine.



BETTMANN ARCHIVE

A sectional drawing of Murdock's first gas-making apparatus, which he used to light his cottage at Redruth, Cornwall. This was the first practical use ever made of coal gas.

sorts. According to one story, Murdock, then about 23 years of age, attracted the interest of Matthew Boulton of the firm of Boulton & Watt, when in his nervousness during an employment interview he dropped his hat. The Birmingham industrialist might have ignored the incident if he had been interviewing any other applicant, but it was impossible to disregard the clatter the hat made when it struck the floor. Murdock, it developed, had turned the hat out of wood on a lathe of his own manufacture. Possibly, though, he made his most bizarre appearance at a later date, when he went about at night in his wooden hat, carrying a gas lantern made of a bladder. The superstitious claimed he was in league with Lucifer.

As an agent for the firm, Murdock was sent to Cornwall to superintend the installation of one of Watt's engines, which were extensively used to pump water from coal mines. It was here that he devised an oscillating engine in 1784. Two years later he began work on a steam carriage or road locomotive—to the annoyance of both Boulton and Watt.

About this time, too, he began experimenting with the manufacture of gas. A small retort was used in his early experiments, and some say his first retort was a tea kettle. By 1792, according to most accounts, he was able to conduct gas through 70 feet of tinned iron and copper pipes to light his house on Cross street, Redruth.

Mother-in-law Trouble?

However, there appears to be some question about this. Oddly enough, the person responsible for placing a question mark after the date was his mother-in-law, a Mrs. Paynter, who may have felt that Murdock was in some way responsible for the death of his wife, who died while still a young woman.

In January, 1808, Thomas Wilson, a Boulton & Watt representative who was then attempting to collect evidence for the firm to use in opposing the charter of Frederick Albert Winsor's gas company, wrote that Mrs. Paynter told him "the gas was never set fire to" at Murdock's house "at a greater distance than the length of a gun barrel fixed to the retort." Wilson found evidence that Murdock had demonstrated a gas-making apparatus at Neath Abbey Iron Works

in November, 1795, and February, 1796, when gas was made in "an iron retort with an iron tube of from three to four feet in length, and through which the gas from coal then used in the retort issued, and at the end thereof was set fire to, and gave a strong and beautiful light, which continued burning a considerable time."

Murdock returned to Birmingham about 1799, and he made such progress in the discovery of practical methods of utilizing gas that in 1802 the exterior of the Boulton & Watt factory was lighted in celebration of the Peace of Amiens, a treaty signed at the French city by Great Britain, France, Spain and Holland. The following year he lighted the firm's foundry with gas lights.

First Gas Company

This was the year, incidentally, that Winsor, a German, moved to London and began experimenting with a gas apparatus copied from Philippe Lebon, a French chemist and engineer, who in 1801 had lighted his house and gardens in Paris. Winsor obtained the first English patent for gas-making purposes May 18, 1804, and on May 5, 1809, he formally applied to the House of Commons for a charter, which was finally granted in April, 1812, despite the strong opposition of Murdock and Watt. The Westminster Gas Light & Coke Company thus became the world's first gas company.

The gas lights used at the Boulton & Watt factory and foundry came to the attention of George Augustus Lee of the firm of Phillips & Lee, cotton spinners, and he ordered an apparatus for lighting his house with gas in 1804. Toward the end of the year, Lee decided to light the mill, and Murdock set about making a larger and much improved retort for supplying the factory. On January 1, 1806, Murdock wrote Boulton & Watt that "fifty lamps of different kinds" were lighted that night with satisfactory results.

Except for the difficulties with Winsor, Murdock became less active in the gas industry. He had succeeded in establishing the industry on a solid and practical foundation on which others might begin building. Murdock (or Murdoch, to use the original spelling of his name) retired from Boulton & Watt in 1830, and died November 15, 1839, at the age of 85.

Off the .. Record ..

Mike, walking along the railroad tracks on his way home from the saloon, found the leg of a man lying on the tracks. "By golly, it's got a scar on it just like Pat's." A little farther on he found an arm. "It sure is Pat's arm. Look at the crooked finger on it," marveled Mike. A few steps further he found a head. Sure enough it was Pat's. Mike picked it up by the hair, and said, "What's the matter, Pat, are you sick?"

* * *

Young girl at perfume counter, after looking at My Sin, Breathless, and other lurid trade names:

"Have you anything for a beginner?"

* * *

"Do you think the Senator put enough fire in his speech?"

"My opinion is that he didn't put enough speech in the fire."

* * *

Credit Manager: "My dear sir, you should be glad to pay your bills with a smile."

Customer: "I'd love to, but you guys always want cash."

Mother rabbit to her small child: "A magician pulled you out of a hat—now stop asking questions!"

* * *

A one-ring circus was visiting a town in the hills. The folks there recognized all the instruments except a slide trombone.

One old settler watched the player for quite some time, then said, "There's a trick to it; he isn't really swallowing it."

* * *

Hubby: "In these days, of all the accomplishments to boast about—that fellow on the third floor says he has kissed every woman in this apartment building but one!"

Wife: "I'll bet that's that stuck-up Mrs. Murphy upstairs!"

* * *

"Sorry, old man, that my hen got loose and scratched up your garden."

"That's all right, my dog ate your hen."

"Fine! I just ran over your dog."

* * *

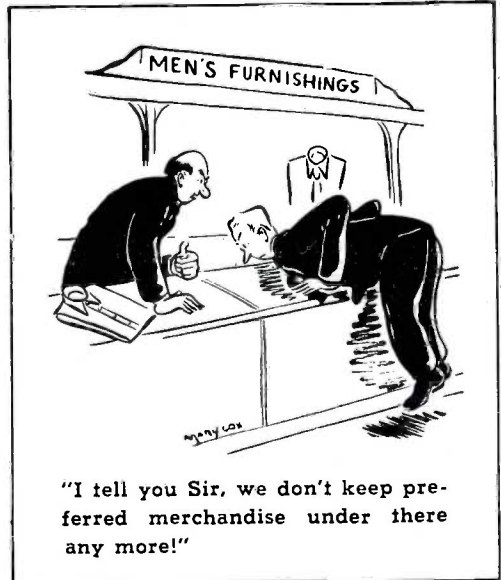
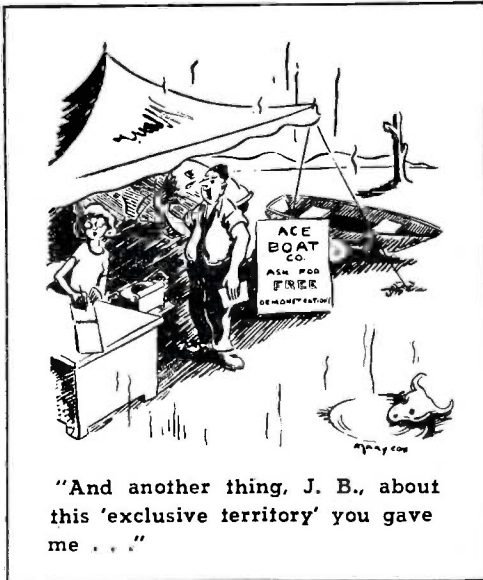
Bell Hop: "Did you ring, sir?"

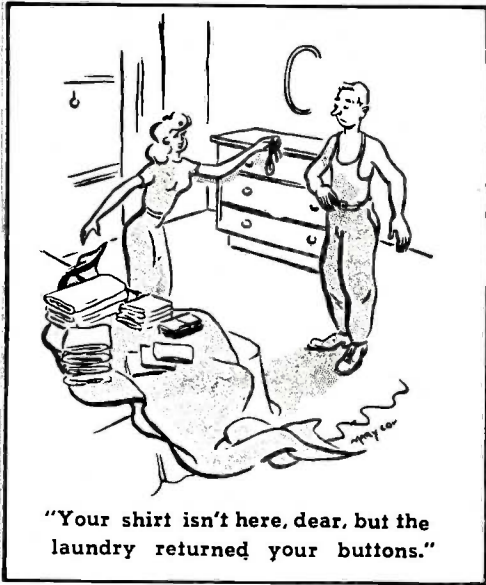
Irate Guest: "No. I was tolling. I thought you were dead."

* * *

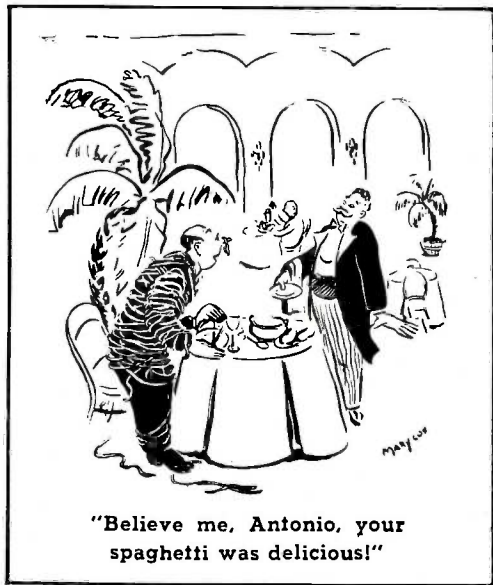
Mrs. to Mr. (arriving home at 3 a.m.): "Well, did you find home is the best place after all?"

Mr.: "I don't know about that, but it's the only place open."





"Your shirt isn't here, dear, but the laundry returned your buttons."



"Believe me, Antonio, your spaghetti was delicious!"

"Henry is our best salesman—that guy could sell anything."

"That so?"

"Well, yesterday a widow came in to buy a suit in which to bury her husband, and he sold her one with two pair of pants."

* * *

A farmer's barn burned down and the agent for the insurance company, explaining the policy that covered the structure, told him that his firm would build another barn of similar size instead of paying the claim in cash. The farmer was furious. "If that's the way your company does business," he exploded, "you can just cancel the insurance on my wife."

* * *

The mother of a spoiled little darling called her doctor on the phone. "Come quick," she cried. "Percy has just swallowed a fountain pen." "I'll get there as soon as possible," replied the doctor, "but I have several patients in my office and it may take me three or four hours."

"Three or four hours," echoed the lady, "what will I do in the meantime?"

"I'm afraid," replied the doctor, "you'll have to use a pencil."

* * *

"Your hair is like spun gold. Your eyes like two pools. Your lips—gee, what a mess you must make on the rim of a coffee cup."

She: "Don't you think dancing makes a girl's feet larger?"

He: "Yes."

She: "I rather think swimming gives a girl awfully big shoulders, don't you?"

He: "Yeah."

Pause.

He: "You must ride quite a bit, too."

* * *

"Can you describe your assailant?"

"Of course I can. That's why he hit me."

* * *

"Was the baby sent down from heaven, Mama?"

"Yes, dear."

"They like to have it nice and quiet up there, don't they?"

* * *

Serious young man: "Do you enjoy Kipling?"

Gal: "I don't know—how do you kipple?"

* * *

Doctor (after examining patient): "I don't like the looks of your husband, Mrs. Brown."

Mrs. Brown: "I don't either, Doctor, but he is good to the children."

* * *

"What do you think is the cause of so many unhappy marriages?"

"Too many people marry before they have sense enough to stay single."

Mostly Personal

(Continued from page 1)

the race and on the history of the automobile industry in general. He also has had an important role in the making of much of that history as an engineer and inventor.

J. W. (Bill) Simpson, executive vice-president of Mueller Co., recently was honored upon the completion of fifty years of service with the company.

Mr. Simpson recalled that his first job with the H. Mueller Manufacturing Co., as it then was known, was as an assistant to Hieronymus Mueller, the firm's founder, who at that time was devoting considerable time to the development of the Mueller automobile. One of his duties was to clean the white lead from the spokes of the car wheels before they were painted. The white lead was used as the wheels were put together.



J. W. Simpson

For this chore and his other duties he received \$2.50 a week—and a work week in those days ran sixty hours. At that he felt he was doing pretty good, for it was a dollar more than he had been getting with another firm.

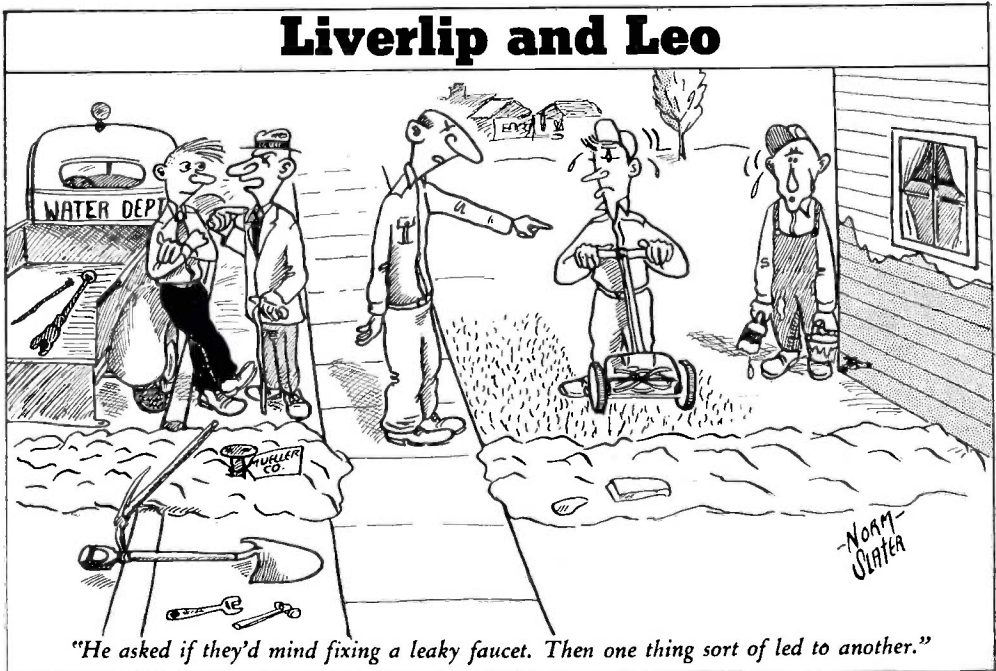
Mr. Simpson is well known in the water and gas industries, having been connected with the sale of Mueller Co. products for many years. He became vice-president in charge of sales in 1929, and was elected executive vice-president October 21, 1947.

* * *

We'd like to mention here that C. D. Batchelor, whose editorial cartoon from *The News* is reproduced on page 3 in connection with the article on New York's water shortage, is a Pulitzer prize winner. Mr. Batchelor received the award in 1937 "for a distinguished example of a cartoonist's work during the year."

* * *

San Antonio Machine & Supply Co. received the plaudits of *Willing Worker*, a publication of the American Water Works Association, in a recent issue for devoting a regular half-hour radio program to deserved praise of water works men and calling for public appreciation of public water supply. The program was heard throughout southwestern Texas.



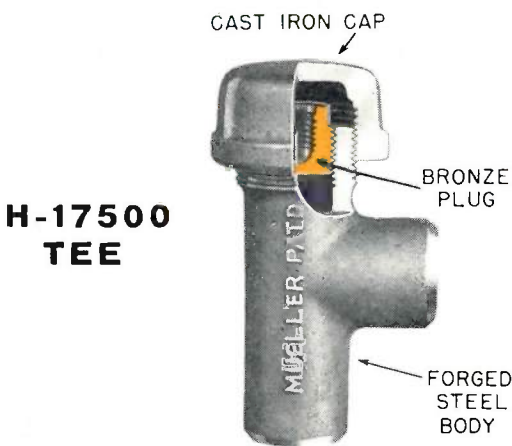


**MEANS
SAFETY · ECONOMY
PERMANENCY**

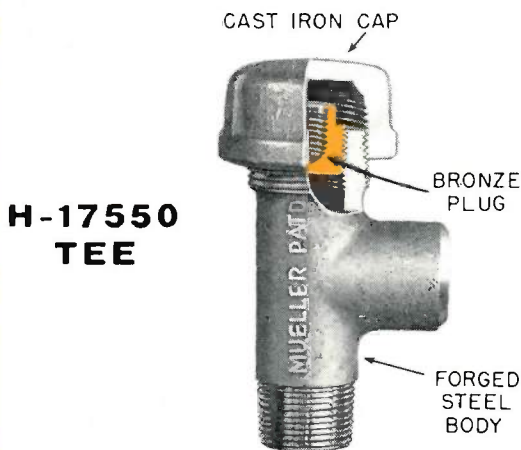
FOR MAKING CONNECTIONS ON HIGH, MEDIUM OR LOW PRESSURE LINES

← TWO TYPES OF INLETS →

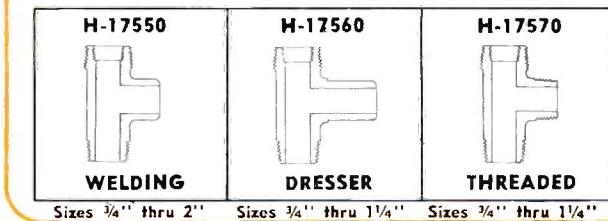
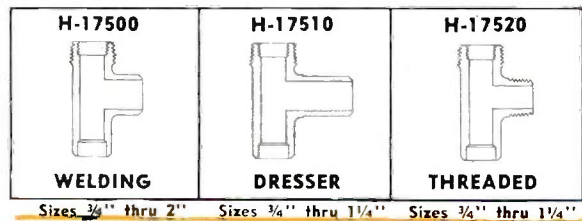
WELDING INLET



THREADED INLET



VARIOUS TYPES OF OUTLETS...



Use these Tees on either cast iron or steel pipe as the inlet connection may be welded or threaded, and the Outlet supplied for any type of service connection—Welding—Dresser Coupling—Inside or Outside Thread. All operations may be performed under pressure without the loss of gas as the drilling, stopping, and plugging is easily done with the MUELLER "E-4" or "T" Machine. These Tees will withstand working pressures up to 125 lbs. p. s. i. with a generous margin of safety. The plug and cap at the top of the

Tee provides a double leak-proof seal, and with proper equipment the service may be shut off at any future time. When ordering, specify quantity, size and catalog number. The size of the TEE is determined by the size of the service pipe to be attached to the side Outlet. Catalog 55 gives complete information. Write for your copy today.



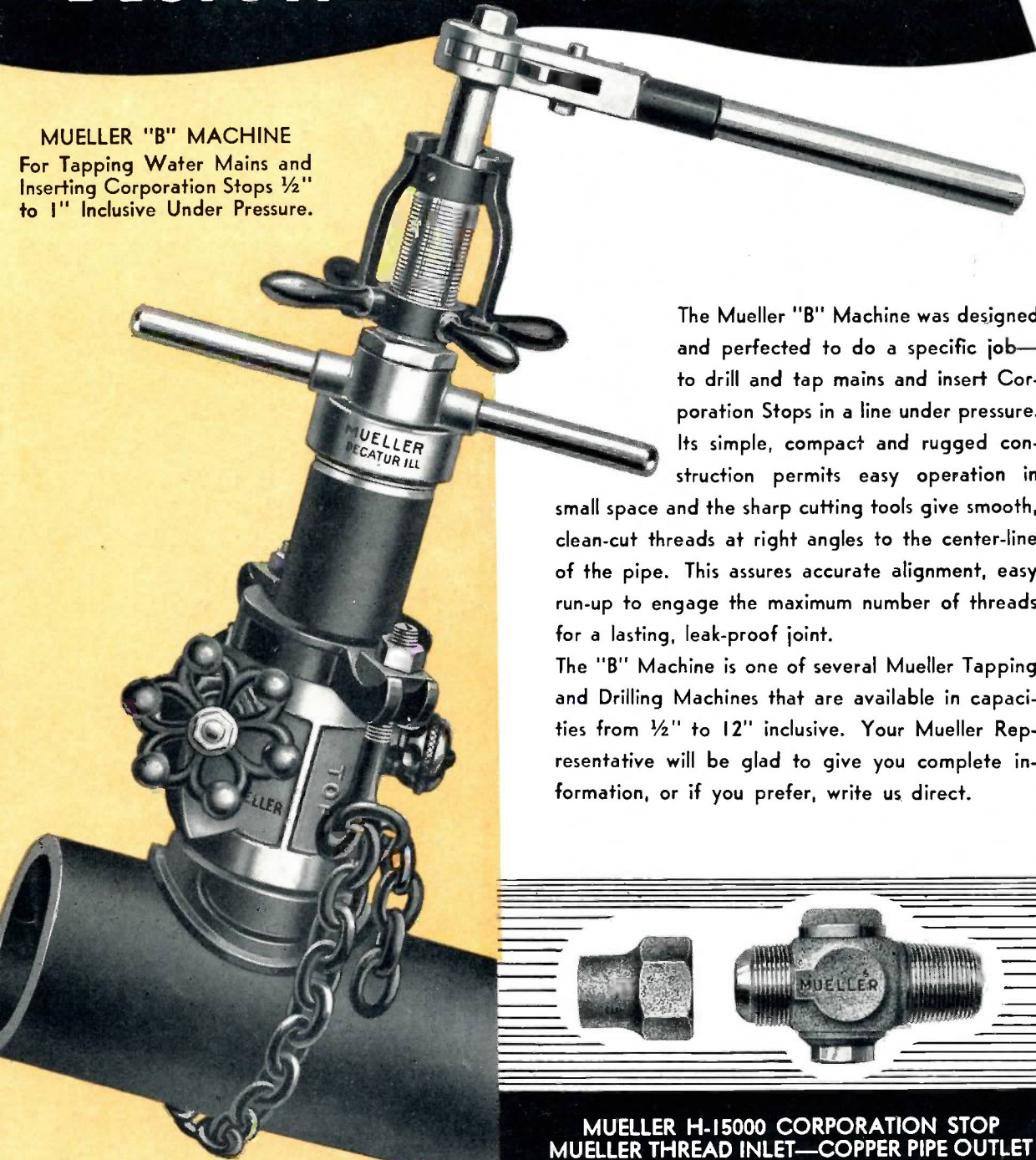
MUELLER CO.

MAIN OFFICE AND FACTORY.....DECATUR, ILLINOIS
OTHER FACTORIES: Los Angeles, Cal.; Chattanooga, Tenn.; Sarnia, Ont. Canada

DESIGNED FOR THE JOB!

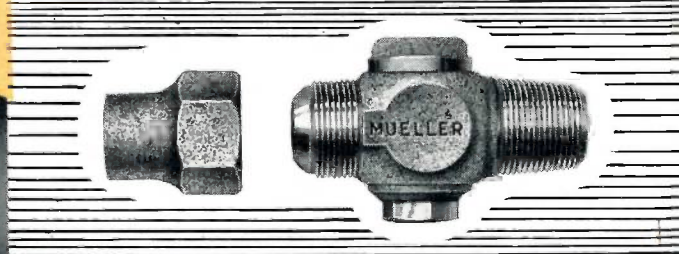
MUELLER "B" MACHINE

For Tapping Water Mains and
Inserting Corporation Stops $\frac{1}{2}$ "
to 1" Inclusive Under Pressure.



The Mueller "B" Machine was designed and perfected to do a specific job—to drill and tap mains and insert Corporation Stops in a line under pressure. Its simple, compact and rugged construction permits easy operation in small space and the sharp cutting tools give smooth, clean-cut threads at right angles to the center-line of the pipe. This assures accurate alignment, easy run-up to engage the maximum number of threads for a lasting, leak-proof joint.

The "B" Machine is one of several Mueller Tapping and Drilling Machines that are available in capacities from $\frac{1}{2}$ " to 12" inclusive. Your Mueller Representative will be glad to give you complete information, or if you prefer, write us direct.



MUELLER H-15000 CORPORATION STOP
MUELLER THREAD INLET—COPPER PIPE OUTLET
For maximum satisfaction, always install Mueller Corporation Stops. They are obtainable in a wide variety of sizes, styles and patterns with end connections to meet the requirements of standardized water works practice.



MUELLER CO.

MAIN OFFICE AND FACTORY..... DECATUR, ILLINOIS
OTHER FACTORIES: Los Angeles, Cal.; Chattanooga, Tenn.; Sarnia, Ont. Canada