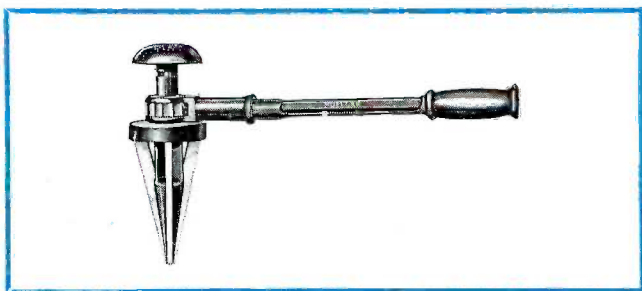


MUELLER RECORD



JANUARY, 1931



More often than not the ability of a man to turn out a job in a creditable fashion is determined by the tools he uses.

Even the most skilled workman can't turn out an A-1 job if his tools are out of tune to his ability.

Why not, then, make the most of your ability by using the tools that fit your hand like the keenest instruments poised in the hand of the master surgeon?

Mueller tools are made for men with pride in the craft they follow. Nothing has been spared to make them the most efficient. . . . the most durable, and the most convenient to use. All metals come from tested batches from laboratory controlled sources. All forgings are done by hand in the same time-honored manner approved by centuries of experience.

MUELLER CO., Decatur, Illinois

Established 1857

*Branches: New York, Dallas, Atlanta, San Francisco
Los Angeles, Chicago*

Canadian Factory: MUELLER, Ltd., Sarnia

Trade **MUELLER** Mark

MUELLER
SERVICE TOOLS

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THE FACTORIES BEHIND MUELLER PRODUCTS



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VITREOUS PLANT
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IRON FOUNDRY
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THE MUELLER RECORD

Vol. XX

JANUARY · 1931

No. 221

Instead of looking to legislators to produce good business and prosperity, let's look to the business men of the country. They are the boys who make business.

And now comes 1931 with three hundred and sixty-five unread pages filled with startling shocks and surprises. We all call it a Happy New Year which proves our optimism. It sounds good at least and we wish you one.

Literacy tests for voting have been applied in this country over a period of 75 years. It is now given more thoughtful attention than ever before. Much has been accomplished through the education of foreigners in night schools. Twenty states and the territory of Alaska have these literacy tests.

Hail the New Year and anticipated prosperity. The government is taking a hand. Big preparations have been brewing during the past eight months. The preparatory steps have been taken, the iron is hot and it is time to strike. Contracts of 576 millions have been made and will reach over a billion dollars. In anticipation of the launching of many contracts some 43,000 were added to the payrolls of the government during the last six months of the year. When the projects get under way many additional thousands will be added. All states expect to carry on a great deal of public work. Money is going to circulate again and times are going to be good.

TOO LIBERAL INTERPRETATION

Too many drivers put a too liberal interpretation on the "right of way." In a law suit determining responsibility for an accident the party having the right of way is most likely to get a favorable decision. Legally he is entitled to it, but not always so morally. Regardless of who has the right of way, a driver is morally responsible to sometimes sacrifice that right in order to insure the greatest degree of safety to those who may not have recognized this right. Any driver of an automobile should not drive it like a juggernaut, even if he does have

the right of way. It should be driven with reasonable regard for the other fellow. Because it is not it has become the greatest cause of accidents.

Benjamin G. Eynon, commissioner of motor vehicles, Pennsylvania, writing in the U. S. Daily says:

"The one thing which will do more to reduce accidents than all the technical research in the world is something one cannot acquire overnight and something which, because we have forgotten it for so long, we cannot now attain without practice. If it were present in the minds of people at all times 'accidents' would really be accidents—unavoidable occurrences.

This quality is ordinary common courtesy or consideration for another. This is the essential element of traffic safety and if it were practiced more often there would be less reason for motor laws and practically no reason for motor patrolmen."

LET THE DEAD PAST BURY ITS DEAD

The New Year is here. Within its 365 days are hidden opportunities awaiting the touch of human fingers to transform them into accomplishments. It is these days which call to us for attention and earnest effort. The old year has passed into oblivion. Nothing that we did that year can be changed. Only the foolish and the weak will dwell on the dead days of 1930. Wise men will devote themselves to the work to be done in this new year of 1931.

A bit of Baconian philosophy seems apropos at this time:

"That which is past and gone is irrevocable, and wise men have enough to do with the present and what is to come; therefore they do but trifle with themselves who labor in past matters."

Have Good Foundation

Elephants ordinarily sleep while standing. They have been known to remain standing even after death.

About 40,000 species of molluscs are known, half living today and half known only by their remains in the rocks.

THE MUELLER RECORD

Published at Decatur, Ill., by MUELLER CO.,
Manufacturers of Vital Spots Products for the
Plumbing, Water and Gas Industries.

C. N. WAGENSELLER, Editor.

CIRCLING TO THE LEFT

New York and New Jersey in a Tangle Over Water Supply

New York City and the state of New Jersey have locked horns and are circling to the left over the proposed new source of water supply.

The big city has \$275,000,000 it wants to spend so as to insure its water supply. The city wants to build a reservoir and aqueduct tunnel through the Catskill mountains and tap the head waters of the Delaware river. It is a gigantic undertaking and will require seven years to complete the first unit while the project in its entirety cannot be completed short of twenty-five years.

New York claims to be in a bad way for water. The experts say the city will face a water famine in 6 or 7 years if the new plan is not permitted. The state of New York supports the city's claim. The scheme contemplates impounding two hundred and four billion gallons. New York claims that the impounding scheme in flood time with a subsequent control system will assure a better water level in the Delaware river than can otherwise be obtained. Notwithstanding that the proposed source of supply is located in New York state, New Jersey objects to the improvement, taking a directly opposite view of the matter. They claim that the level of the river will be lowered, that navigation will be interfered with, pollution of the stream increased and that other damages will result. The United States Supreme court will have to settle the dispute.

RASTUS' PHILOSOPHY

"De sunflower ain't de daisy, and de melon
ain't de rose,
Why is dey all so crazy to be sumfin' else
dat grows,
Jes' stick to de place yer planted and do de
bes' yo' knows,
Be de sunflower er de daisy, de melon er de
rose.
Don't be whut yer ain't, jes' yo' be whut
yo' is,
Ef yo' am not whut yer are 'den yo' is not
whut yer is,
Ef yo' is jess a little tadpole, don't yer try ter
be de frog,
Ef yo' is de tail, don't yer try ter wag de
dawg.
Pass de plate ef yer can't pray en preach,
Ef yo' is jess er little pebble, don't yo' try
ter be de beach.
When a man is whut he isn't 'den he isn't
whut he is,
An' 'ez sure 'ez I'm talkin', he's a 'gwine
ter get his."—Ex.

A RABBIT DINNER

American Legion Hold Annual Event in Mueller Cafeteria

Castle Williams Post, American Legion, gives an annual rabbit dinner and reunion. Getting the rabbits is the easiest part of the affair as there are many good marksmen in the local post. Getting a suitable place in which to hold the dinner is not so easy. It requires a well equipped kitchen and dining room, because the attendance is always large. Such places are plentiful in Decatur but the expense is quite heavy. There is nothing in Decatur quite as convenient and handy as our cafeteria and gymnasium.

Members of the Legion came to the company and told them of their trouble. The company tendered them the use of our cafeteria and gymnasium without cost, not only for this year's event but for future years. This action solves quite a problem for the Legion.

The dinner was held Monday evening, Dec. 8th. As soon as our noon day lunch ended, wives and sweethearts of the Legionnaires took possession of the cafeteria kitchen and dining room. Manager C. G. Auer and his staff remained to help the ladies of the Legion.

The dinner was a fine success. When finished the company adjourned to the gymnasium where a vaudeville program was enjoyed together with music and dancing. Messrs. Adolph and Robert Mueller were guests of the Legion.

NEW YEARS DAY HAS FLUCTUATED

New Years day did not always fall on January 1st. The Jewish people, Chinese and other nationalities still have their own New Years day. The first mentioned have their New Year in September while the Chinese whoop it up between January 21st and February 19th, and it's some celebration.

Welcoming the New Year is a very ancient custom. It reaches back 3000 B. C. when Babylonians had a rousing time called Zakmuk and it was no one night stand, but lasted ten or twelve days during the early part of March. There were other early carnivals having affinity with the Babylonians, among them being the Jewish Purim Feast, Greek Festival of Cronos, the Roman Saturnalia. There is a story in each of these. Then as now New Years day was not the same in all localities. The vernal equinox marked the Babylonian festivities while with other nations of that day the year ended with the winter solstice until Julius Caesar changed the date to January 1.

However, until 1752 England had celebrated the New Year on December 25 and March 25th. In the year mentioned England accepted and has since held to January 1.

Good Safety Education

A pamphlet containing city traffic laws has been distributed by city officials to residents of San Angelo, Tex.

Adolph Mueller Makes Comment On Plumbing Industry

At the request of Western Plumbing, a trade publication, Adolph Mueller gave expression to his views on plumbing. The article as it appeared in that publication, is printed herewith:

Everyone knows the old monkey and parrot story, perhaps. The parrot because of a certain vocal accomplishment gave a lot of advice to the monkey who was finally provoked into a fight in self-defense. When the battle was over the parrot flew back to his perch, and surveying the spots where beautiful feathers once grew, croaked: "I know what's the matter with me, I talk too damn much." I am beginning to think that there is a parallel to this story in the plumbing industry.

The plumber has been told that he is not a merchant, that he does not understand business rules, that he does not know his costs, that he does not know how to figure a contract, that he is not making the profit that he thinks he is, that overhead is beyond his understanding, that he does not know how to keep books and so on until the book of revelations. If he has not been convinced that he is a numbskull it is because he is too smart to accept and follow all the free advice that has been given to him.

Everyone without and within the trade has fired both barrels at him.

Still at Old Stand

Now an outstanding feature to me shows in the depression that has beset business during the past year when plumbing has been as hard hit as any other line. The good plumbers are still in business. Surprisingly few failures have been reported—no more in proportion to the number engaged than in any other line. This seems to indicate that the plumber is a pretty good business man after all.

Maybe the shower bath of free advice did some good in some quarters but I would rather give the good plumber credit of being smart and keen enough in business to have pulled himself through.

Without any specific data before me, I'll hazard the guess that the plumbers who go through a business depression successfully or who keep in advance in good times are men who use quality material, know how to sell it at a profit against inferior material and not only make the client like it, but make him feel that a favor has been shown him.

There are some whose vision is still fogged by confusing old plumbing conditions with the present day practice. The two are separate and distinct.

Like everything else commercial and industrial the plumbing industry has undergone a marked change.

The personnel, the methods, the material, and the opportunities are on a higher plane. It's the plumber who realize and fits into the changing times that wins out.

Want Better Things

The American people have been educated to a desire for better things in all lines and this includes plumbing.

It's short sighted business policy to let them buy inferior merchandise when they can be sold high grade products.

Large jobbing plumbers advise that 65% of their trouble calls are attributed to low price, poor quality of plumbing products.

The same thing is true of any other line of goods.

The unfavorable reaction affects the retailer's reputation because he is in personal contact with the buyer.

Curiously enough, the person who insists on inferior material even against the advice of the seller, never blames himself when the inevitable trouble and expense of upkeep begins. He always blames the seller.

Sales Restricted

Generally speaking a plumbing outfit is one sale in the lifetime of the buyer. It's the only merchandise we know of on such restricted sales opportunity. Furniture, carpets, painting, household, hardware, stoves, etc. must be replaced periodical. This condition in the plumbing field is failure in educating the public to replace plumbing. Progressive plumbers are beginning to realize this and when they begin the practice of reselling they are opening up a widely neglected field of sales.

It's my belief that the industry is on the up-grade and that plumbing contractors of today are giving more thought, better workmanship, and quality materials to all of their plumbing installations.

The future of the plumbing is assured. It's no longer necessary to create a desire for it. That desire has been created. The public is plumbing minded. They recognize it as a necessity just as they do heat, light, and furnishings. The selling job is not hard. It's simply a matter of filling a need. Finally it narrows down to a choice between inferior or quality goods. The plumber can decide the issue in nine cases out of ten.

It's EASIER to sell better MERCHANDISE.

City With Surplus

Pasadena, Cal., will be able to defray its expense of obtaining power from Boulder Dam through use of a \$600,000 surplus of the municipal department.

Catholic Mission

Equipped with a small chapel, a 60-foot yacht has been sent to Alaska as a Catholic missionary ship.

Only 12 percent of the operating cost of a car goes toward gasoline.

I'm Tellin' You



Let's begin the New Year with a smile—it may hurt your face at first but you'll become accustomed to the pain and like it.

"Halt," cried the general of the red ant army, upon meeting an Austin. "Stand at attention and salute your new leader."

Yes, suh, Dr. Pangloss you were right—it's the best possible world—but there are many opportunities for improvement.

In Siam they hang taillights on the elephants. Now we know how the G.O.P. got that awful smash in November. Some one failed to hang out the tail light.

False pretences: Hooking onto a radio station after half hour's effort in the expectation of getting something good only to be told that the selection is taken from a graphophone record.

Speaking of Education—it used to be expressed as "the three R's"—readin, writin' and 'rithmetic. It's still "the three R's"—rah! rah! rah!

Unemployment has not invaded the ranks of the grave diggers. There is a line never failing to give steady employment the year around, time without end!

Answering the doorbell now is fraught with two dangers—a hold up man or the wolf.

A birthday, says Henry VanDyke, is not a thing for which any man deserves credit, or "wice wersa," Henry.

A college professor says there are seven varieties of liars. Ah, my dear professor, forsake your cloister and come out into the walks of men. We know better than that without going to college. There are seventy-seven varieties that we have met personally.

Maybe, as Prof. Henry VanDyke says, the award of the Nobel prize to Sinclair Lewis "was an insult to America," or maybe again it was merely a case of poor judgment.

Despite the popularity and use of vacuum cleaners and carpet sweepers, 37,000,000 brooms were manufactured in the U. S. in 1929. Some one asked "what are they used for." Well, a woman can't chase a dog or a cat or threaten a tramp with a vacuum cleaner or carpet sweeper, can she?

This column is usually devoted to kidding, but this time I want to use part of it for giving an appreciation of the Mueller Co. Each of us has been aware of the depression the entire country has passed through the last year and of how it has affected both employer and employee.

But considering all this, at Christmas time the Mueller Co. gave out over \$23,000 in service and suggestion awards and for presents. The firm members also asked that no presents be given them by the employes this year, but that the money usually collected for that purpose be handed to the special fund for caring for employes who are in need. Their suggestion was also adopted by Mr. Roarick, factory superintendent, and the two sums added a nice bit to this good cause.

In addition all employes were given their usual Christmas presents of either a ham or bacon or subscriptions to a magazine of their choosing equal in value to the ham and bacon.

During this entire year the firm has consistently tried to keep as many men busy as they possibly could, even going so far as to promote building activities.

Considering all these things, I believe every Mueller employe should be very grateful that the firm they are connected with is one that has a heart as well as a business mind and we each should pledge to place our shoulder to the wheel and put the business over in 1931 to its greatest year.

MR. FLENTJE IN NEW PLACE

E. L. Flentje has been elected to the important position of Commissioner of National Plumbing and Heating Institute, the trade practice group of the industry.

Mr. Flentje until recently was secretary-manager of the Plumbing and Heating Industries Bureau, formerly known as the Trade Extension Bureau. He assumed his new duties January first.

By education and experience Mr. Flentje is well equipped to take up his important duties and discharge them satisfactorily and efficiently. He has a fine personality, reliable judgment, executive capacity and knows merchandising and advertising. He is a graduate of the University of California and has done post-graduate work in European universities.

Mueller Goods in New York



These two smart looking New York City apartments are two of a half dozen of the same kind and character erected by the Tishman Realty and Construction Company, one of the largest construction-owner management concerns in the United States.

Their selection of Mueller Co.'s G-2762 Combination Sink Faucet and other Mueller fittings for all of these buildings is evidence of their purpose to keep the plumbing in these splendid buildings up to the top notch of the best in everything that good judgment could dictate.

It's a fine instance of maintaining in plumbing an equality with exceptional equipment of high grade material of every product entering into these beautiful buildings.

In former days it was too frequently the case that plumbing fittings were regarded as a minor feature but happily that day is in the past with keen, farsighted builders and architects who seek the best plumbing brass goods.

The Tishman Realty and Construction company has an international reputation for high standards of construction and equipment. They have a very critical and exacting system of analyzing the relative value of competing products.

The two of the six apartment buildings are located in one of New York's finest residential districts where rents are high and tenants exacting. The total investment in these six buildings is approximately seven million dollars. A New York authority refers to them as classics, whose details of construction will be used as a guide in future construction of apartment buildings throughout the country.

More than two-thirds of the people of India are Hindus.

WILD GAME CENSUS

Mountain Sheep More Plentiful Than Generally Believed.

There remains a considerable amount of wild game in this country although many writers would have you believe it is just about extinct. The game does not expose itself as a target for the skill of a sharp shooting sportsman. It lives and propagates its kind in the protected areas of government sanctuaries. Practically all kinds of game, either of the air, earth, or water, is now the beneficiary of thoughtful laws. Even in the thickly populated states of the middle west, wild ducks are abundant and wild geese occasionally fall before the rain of shot, while squirrel, muskrat, otter and other species of fur-bearing animals are plenty enough to make it worth while for the hunter and trapper to pursue his free and easy calling in stated seasons.

Bigger Game More Plentiful

Out in the west and northwest bigger game is more plentiful than the average man supposes. This fact is brought out in an article in the United States Daily. Recently a "census" was taken by airplane in the vicinity of McKinley National Park in Alaska. It had been estimated that only about 15,000 mountain sheep remained. It was found this number is far too small. Great herds of these animals were observed from the air. They live contentedly in a vast region which the interior department tells us is practically unexplored, in fact a region never yet penetrated by man.

Herds of Caribou

The number of caribou is placed at 50,000 during the spring and fall, but in the winter months they move further south to better

feeding grounds. Wild animal life of various other species was observed in increasing numbers.

Ptarmgin Not Extinct

Even the ptarmgin, a specie of the grouse family, which was thought to be extinct, is found to be there. They are distinguished because of some very distinctive markings, one of which is the growth of feathers close to their toes. They dwell largely upon the snow-covered peaks of the Rocky Mountains from Colorado to Alaska. These fowl have different plumage for summer and winter. Their habits are like those of the grouse. They nest upon the ground and live largely upon buds, especially the birch.

ROMAN BATHS AT BATH

Old English City Has Well Preserved Relic of Roman Days

While Mr. and Mrs. Adolph Mueller and niece, Miss Dorothy Knauss, Mr. and Mrs. Robert Mueller and son, Ebert, and Mr. A. G. Webber were touring Europe last year, they visited the city of Bath, England.

This is one of the most interesting of English cities. It is located in Somersetshire, on the Avon river about 11 miles southeast of Bristol. The Romans founded a city somewhere about 55 B.C. and erected therein magnificent baths to which Romans were devoted. They called the city *Aquae Solis*, which means "Waters of the Sun". The hot springs here are the only hot springs in Britain. These springs have poured forth their hot water for more than 2000 years, and they possess medicinal properties which now attract the moderns just as they did the ancients. The water comes from somewhere in the bowels of the earth at a temperature of 112 degrees Fahrenheit. With the coming of the Saxons the ancient Roman city was lost until 1755 when a few of the traces of the Roman occupation were brought to light. Again these were cast aside and inbedded in the earth once more.

In 1875 evidences of an ancient people were 20 feet below the surface but some real exploration work was done and the baths were reclaimed or at least what was left of them. Many of the original baths, and parts of the walls were brought into view. Some of the walls stand 8 or 10 feet high. One of the reclaimed baths known as the Great Roman Bath is 110 feet long and 68 feet wide. It is almost perfect. The original floor is there including the lead covering and much of the Roman carving stands forth in mute evidence of the art and skill of the Roman sculptors. Among other treasures found was a bronze head of Minerva with every feature undamaged by its long burial. Lead pipe with its soldered joints is still in use as is the great drain the Romans installed for carrying away waste water. There was much of interest to claim attention of any sight seer, but these baths were of particular interest to our travelers and

especially the lead work which has withstood the ravages of two thousand years.

The city of Bath is still a Mecca for the English and tourists as well who want to see and inspect these baths to which the Romans gave so much thought and upon which they lavished great wealth.

THAT FOURTH FAUCET

Another explanation of why the cow is so generously endowed. Mr. Howard Holbrook of Kansas City started the ball rolling when we published the following query:

"There are only three kinds of milk—condensed, evaporated and bottled—Why four faucets on a cow?"

Mr. Holbrook said the fourth one was for water and Mr. W. F. Dodd of Chicago, said it was for buttermilk.

Then came Mr. O. R. Wood of Galveston, who said "it was well known that a cow gave nothing buttermilk, and that Mr. Dodd had better revise his figures."

And then we got the following from Mr. R. C. Osborn, a plumber, 4230 East 98th St., Cleveland, Ohio, who says:

"Why the fourth faucet on a cow? Your answers are all wrong. It is for the milky whey. Was raised on a farm and should know."

Next came Mr. Charles Davis, water superintendent of North Muskegon, Michigan, who gave this explanation:

"Why Four Faucets on a cow has caused quite a little bit of excitement in the country, but I think that all the answers you have received are wrong. The fourth faucet on a cow is for a vent."

And now comes Robt. E. Smith, city salesman for the Mutual Mfg. & Supply Co. of Cincinnati, who writes under date of August 11, '30, saying:

"That fourth faucet? After much thought I have reached the conclusion that the fourth faucet is a pop-off valve."

This last guess comes from Harry M. Thomas, registered plumber of 99 East Wister St., Germantown, Philadelphia, who says the fourth faucet is for an emergency as is the special brake on your automobile.

Who?

Three fellows—a doctor, an architect and a bolshevist—were talking together, and each claimed that his kind was the oldest and most important.

The doctor said:

"When Adam's side was opened to take out a rib to make a woman—that was the first surgical operation."

The architect said:

"Yes, but when the earth was made of chaos, before Adam's time, there had to be building plans—and an architect had to make them."

The bolshevist said:

"You are right, but who supplied the chaos?"

THOSE FUNNY FOREIGNERS

Grand Opera, Maybe

Lodger—Something must be done to this room, Mrs. Jones. I actually saw a couple of rats fighting in that corner last night.

Mrs. Jones—Well, what do you expect to see fight for two shillings a night—a couple of Carneras?—Everybody's Weekly.

A Fish Story

Englishman (eating a fish cake for the first time)—I say, old chap, something has died in my biscuit.—Punch Bowl.

Not So Easily Caught

"Jones," she said, reprovingly, "you might at least raise your hat to me."

"I beg pardon, m'lady," said the peasant, "but my poor wife ain't been dead ten days and I ain't started lookin' at the wimmen yet."

What About the Comb

One gossip to another—Huh, a fine house-keeper she'll make—she with no hairpins to see if the sausages are done.—London Humorist.

Her Money's Worth

As the old lady strolled through the park she was accosted by two grubby little urchins.

"Mornin', lady," remarked the taller of the two. "Me brother does fine imitashons, lady. Give 'im a penny an' e'll imitate an 'en, lady."

The old lady fiddled with her purse and eventually extracted the required sum.

"There you are," she smiled. "Now, what will he do? Will be crow?"

"Naow," replied the urchin, with a withering grin; "e don't do cheap imitashons of that sort. 'El'll eat a worm."—Ex.

Canned It

"Why do you look so gloomy?"

"I wrote an article on fresh milk and the chief condensed it."—Die Muskete, Vienna.

Conspiracy

"Excuse me, Mrs. Smith," said the cashier, "but this check of your husband's appears to have been altered, and a zero added after the five."

"Oh, you're going to side with him again, are you? It's disgusting the way you men stick together."—London Opinion.

That's the Formula

American millionaire (dictating will)—I leave 20,000 dollars to every one of my servants who has been in my employ twenty years or more.

Lawyer—That is noble of you.

Millionaire—Yes, it looks well and costs nothing. Not one has been with me more than two years.—Pages Gaies, Yverdon.

Ki-Yi-Yi

"With whom was your wife quarrelling last night?"

"Oh—er—she was scolding the dog."

"Poor beast—I heard her threaten to take the front door key away from him."—London Passing Show.

Pickled

'Erbert—Did you 'ear about that bloke gettin' drowned in a vat o' beer?

Charles—Good lor'! No! Wot was up wiv 'im? Were 'e a teetotaler or weren't 'e thirsty?—London Opinion.

This 'Ere

Ear specialist to cockney patient—Now, my man, what about this ear?

Cockney—This 'ere wot?

Proud Pupil

One of the younger novelists is engaged as a master in English at a school in an industrial area. Recently, a correspondent informs the London Morning Post, an employer was interviewing a boy who had just left school.

"Let me see," said he, "Mr. X—, the writer, is a master at your old school, is he not?"

"Yessir," came the ready response, "that's him what learned me English."—Exchange.

These Clever British

Forgetful Husband (to friend)—I want you to help me. I promised to meet my wife at 1 o'clock for luncheon, and I can't remember where. Would you mind ringing her up at our house and asking her where I am likely to be about that time?—Answers.

Sensitive Nerves

Two cockneys at work breaking up pavement with pneumatic hammers.

First Cockney—For 'even sake, 'arry, stop it.

Second Cockney—Stop what.

First—That sniffin'—it's so fidgitin'.

Missed the Miss

Smith—Have you ever been in a railway accident?

Jones—Yes, once when I was in a train and we went through a tunnel I kissed the father instead of the daughter.—Belfast News Letter.

Added a Relic

"Why is Mabel so put out? The papers gave a full account of her wedding."

"Yes; they put 'Miss Blackfield was married to a well known collector of antiques.'"—Nebelspalter.

Too Much Competition

"Did your wife get cold on the mountain? She is so hoarse!"

"No, she wanted to talk the echo down."—Ulk, Berlin.

ASTROLOGY A BIG BUSINESS

One of the Oldest of Sciences Has a Profitable Revival.

Do you believe in astrology? It is one of the oldest of the sciences. As far remote as biblical times it was popular, and deeply trusted. Kings and queens would make no move of importance to them until they had their horoscope cast by an astrologer. These horoscopes were generally satisfactory. Royalty of ancient times had a very unlovely habit of ordering heads chopped off when displeased or dissatisfied. The knowledge of this little eccentricity may have had as much to do with their horoscopes as the position of the planets.

Peddled It Free

In the early days the astrologers, or as also called "soothsayers," were so anxious to show off their accomplishments that they gave out their knowledge gratis, which is quite different from the present day practice when astrology has again become common and very popular—and expensive to patrons.

How Caesar Lost Out

Caesar had his soothsayer as well as his Brutus. The old boy tried to get to Caesar the day the emperor strode majestically to the senate chamber, but was unsuccessful. He had previously told him to "Beware the Ides of March." Had Caesar known of the dark conferences that had been in progress under the direction of Brutus and Cassius he probably would have "beware," but was not hep to the inside ring politics and walked into the trap.

This particular soothsayer had the right dope. More than likely, however, he was wise to the big conspiracy and did not get his information from the stars.

Astrology declined even as the stars decline. For many years it lost its hold on the public and continued to lose but it never entirely lost out. Throughout the ages it has always had a large following, larger now than ever, if we may believe published statements.

\$129,000,000 Annually

It is claimed that the annual American "horoscoping" business costs \$129,000,000.

In the national capital it flourishes and also in New York City, and an investigator of the subject claims that there are a great number of business men scattered through the country who pay as much as \$1000 every month. They regularly "consult their stars" to learn whether the time is favorable to undertaking business ventures. In addition the mail order business is tremendous in volume. The retreat of the modern soothsayer or astrologer is described as varying from luxurious surroundings to a back alley hovel. There are stories of men great in public office whose future has been accurately foretold, which naturally helps the business.

Take a Choice

"Fur as we are conserned" we'd just as soon trust to one of those roving Mexican Indians with a greasy deck of cards. Her lack of intelligence would strengthen our belief that she was dealing in bunk.

Some modern astrologers are persons of great intelligence which gives weight to what they say—and is liable to throw a high-priced scare into you.

THE WAYSIDE STAND

Down in the old Bay State the boys who conduct wayside stands are going to receive state approval providing they are on the level. The fact has developed there as in many other localities, that a lot of slickers run stands of this character. They were quick to realize and take advantage of the well known desire of city folk for products fresh from the farm. It was a simple matter to buy vegetables at wholesale, transport them to the country and do a thriving business. Even if the price equalled that asked in the city the buyers "knew they were getting vegetables fresh from the farm" and gloated over the neighbors who had to buy from reputable city merchants.

The Massachusetts Department of Agriculture in awarding signs identifying bona-fide farmer's stands, makes a few simple rules. These include neatness and cleanliness and that certain of the products must come from the owner's farms. This eliminates the slickers who have bought their stock in the city and trucked it to the stand under cover of darkness.

Naturally the bona-fide farmer who operates a stand is anxious to have a sign on his property which gives the approval of the state board of agriculture.

GEORGIA'S POPULATION

The proud old state of Georgia in the last census showed the smallest per cent in increase since 1790. The total population of the state is given at 2,908,506. This represents an increase of 12,674 or 0.4 per cent.

At the first census ever taken in the United States, which was 1790, the state of Georgia had a population of 82,548 and ranked eleventh in the thirteen original states.

During the past ten years the increase in population has been in the cities or nearby territories. In rural districts it has declined sharply.

The Fish Family

The waters of Alaska contain more than 100 varieties of fish.

It is not the slightest use to think good thoughts unless you do some practical thing to make those thoughts bear fruit.—Roosevelt.

Mueller Goods on West Coast



The Sutter Medical-Dental building was only recently completed. It is beautiful architecturally and takes high rank among the many magnificent structures in the great west coast city at the Golden Gate.

Commenting on the building the Architect and Engineer, a leading publication of the west coast, in a recent issue said:

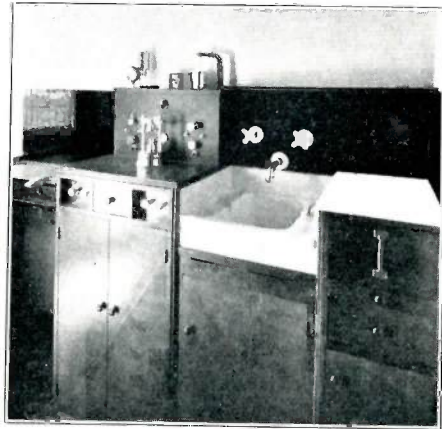
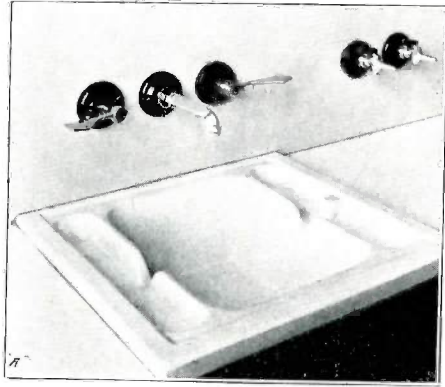
"One of the most outstanding features of the Four Fifty Sutter Medical Dental Building recently completed in San Francisco is the Hot and Cold Water Combination Fittings for the Physicians and Dentists Sterilizing and Laboratory Sinks. These fittings were designed and made by Mueller Company.

Illustration "A" shows a typical Dentist's Sterilizing Sink with combination fitting for delivering either hot or cold or tempered water. Also outlets for gas and compressed air.

The design of handles and spout and the inlaid index buttons are distinctive and modernistic in design. The valves are wrist action, and deliver a full flow with one-quarter turn of the handles upward. Exposed metal parts are chromium plated, wall escutcheons are black china making a very pleasing contrast.

Illustration "B" shows a typical laboratory sink. The fitting has white china handles and escutcheons with chromium plated metal parts.

In keeping with the general character of the building and particularly the Physicians and Dentists sinks, the architects and owners selected Mueller lavatory faucets and traps, control stops, and other plumbing brass goods throughout the building."



The architects of this Sutter building were Miller & Pflueger, and the plumbing contractor, Wm. J. Forster.

The accompanying illustrations give an idea of the beauty and elegance of the Mueller fittings but no picture can give an adequate idea of their real beauty. The brilliance and permanence of the glistening white fittings and the richness of the chromium plated metal can not be reproduced with printer's ink.

Mueller plumbing brass goods were used almost exclusively in this great building.

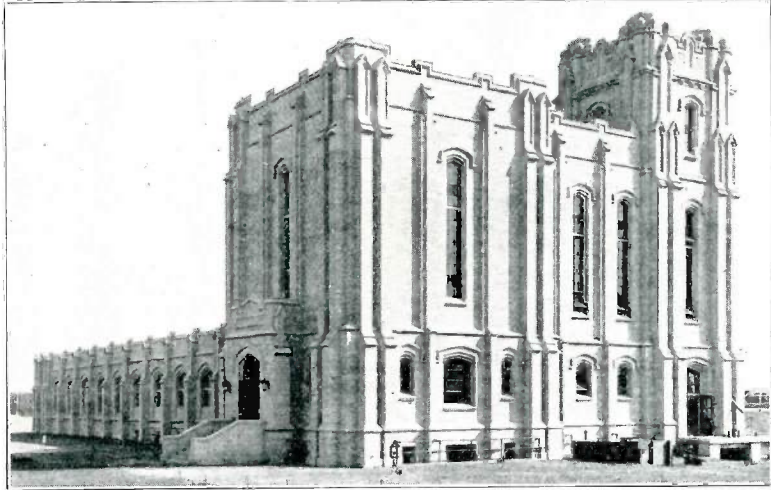
Greyhound Oldest Dog

Greyhounds are perhaps the oldest known type of dog. Stone carvings dating back to about 4,000 B.C. show figures of these graceful animals.

Photographs Depths of Earth

A camera has been invented to be lowered into oil wells as they are being bored to study their courses and detect errors in drilling."

Beautiful Water Works Plant



The new million dollar plant at Cedar Rapids. This very attractive building was designed by Alvord, Burdick & Howson, Engineers. Associated with them was Mr. V. A. Matteson, architect, and Chas. P. Hoover, chemist for the softening plant. H. F. Bloomquist is superintendent of the city water department.

Cedar Rapids has ample justification in feeling proud of this beautiful water works plant. Utility and efficiency have in no way been sacrificed by the addition of symmetry, fine proportions and architectural beauty. Its pleasing to the eye. It's refreshing to know that engineers and architects are realizing the opportunity of putting beauty into public utility buildings of this kind.



H. F. Bloomquist
Supt. Cedar Rapids
water works.

The new water purification and softening plant put in operation on October 10, 1930, at Cedar Rapids, Iowa, completes a program of major improvements begun in 1922, to provide the city with a most modern and complete water supply and distributing system. This major program included changing from direct pumping to a gravity supply by the construction of a water storage reservoir of eight million gallon capacity in Bever Park, located 170 feet above the business and industrial sections of the city, and an entirely new water purification and softening plant with the necessary connecting pipe lines.

Over a Million

The total improvement involves an expenditure of \$1,200,000.00, divided as follows: Reservoir, \$110,000.00; Feeder Pipe lines, \$340,000.00; New Softening and Purification Plant, \$550,000.00; Land, connecting pipe lines, etc., \$200,000.00.

The first Cedar Rapids Water Works was built in 1875 by a private company and operated as such until 1903, when it was purchased by the City. It has now more than 13,000 consumers, which together with water used for public purposes creates a demand up to 7,500,000 gallons per day during hot dry weather, and an average daily demand of 4,800,000 gallons.

12,000,000 Gallons Daily

The new plant has a capacity of twelve million gallons per day and includes the most modern equipment for purifying, softening and pumping water. The intake pump station is located three-fourths mile northwest of the main plant on the easterly bank of the Cedar River. The building at the main plant, 200 feet long, houses the necessary plant equipment, including three chemical storage tanks holding 180 tons of lime and sulphate of alumina, the chemical feeding apparatus, laboratory, a 100,000 gallon filter wash water tank, four units of 3 m.g.d. sand filters and the pumps. The water is pumped with electric power, both intake and main station having pumps of 5, 7½ and 10 million gallons per day capacity. Chemicals are unloaded from cars on side track with a pneumatic unloading equipment.

The softening and clarifying reactions take place in open basins consisting of two 50'x50' mixing tanks, two 100'x100' clarifiers or sedimentation basins, and a 40'x40' recarbonization basin.

Distinctive Architecture

The main building presents an unusually attractive appearance. Unlike so many in-

dustrial buildings its architecture is distinctive, being of the Gothic type constructed of stag brick and cast stone. Its generous dimensions provides room for equipment of two or three times the present rating, therefore as demands of the growing city increases the output of the plant may be increased to two or three times its present capacity by extending the filter room at the east end and constructing additional filters therein, together with additional sedimentation basins east of the present ones, at a comparative low cost.

Water Softening

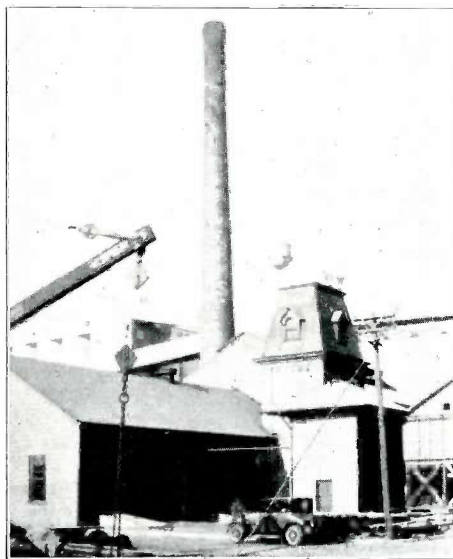
The water softening is accomplished with the use of quick lime slaked in continuous running slakers with feed control apparatus. This process changes the soluble calcium bicarbonate into a normal calcium carbonate which precipitates into a white sludge and settles to the bottom of the sedimentation basins and is removed by a mechanical device which scrapes it to a center outlet from which it is drawn off through discharge pipes. The water is softened in this way to 75 or 80 p.p.m. of hardness which is equivalent to 4½ or 5 grains per gallon, and in order to prevent causticity or flatness in the taste of softened water it is treated with carbon dioxide, generated in a special carbon dioxide generator burning fuel oil. The heat obtained therefrom is utilized during the cold season for heating the building. In the treatment of river water, the softening and purification processes are closely associated since the removal of lime sludge also removes a large part of the impurities from the water through sedimentation. A further clarification of the water is effected in a second set of basins after the softened water has been recarbonized and treated with one-half grain per gallon of aluminum sulphate solution which precipitates into a gelatinous floe and clarifies the water in preparation for a second recarbonization and the final stage in the purification process namely; filtration thru sand filters.

COSMETICS NOTHING NEW

But They Have Been Capitalized Into a Very Large Business.

When girls, young and old, began the liberal plastering of their faces with cold cream, it may have created the impression that a new beauty aid had been brought forth. This is far, far from the truth. Cold cream is an old settler. In fact it has occupied a prominent position for some 2000 years. An authority says it is the second oldest of pharmaceutical preparations. This may be something to create surprise, but not so much as the additional claim that the formula has undergone but little change.

The feminine yearning for artificial adornment is as old as the race. Savage and civilized women have always tried to make over their faces but with varying degrees of success.



The old water works plant at Cedar Rapids from 1875 to 1930.

The growth of the cosmetic industry has steadily increased throughout the years. In 1849 the women of America spent \$350,000 for perfumes and toilet preparations, which seems a small amount compared to the enormous annual expenditures of the present period. However, the increase has grown with the population, and perhaps in proportion, the use of cosmetics is no greater today than a century ago. For example, from \$350,000 in 1849 to 1859 the annual expenditure jumped to \$1,200,000.

Thirteen Divisions

There are thirteen divisions in the industry and under the classifications the value of various preparations in 1929 was:

Perfumes	\$ 21,938,270
Toilet water	8,252,202
Creams	35,131,862
Rouges	12,500,649
Dentrifices	31,440,961
Face Powders	22,979,522
Talcum Powders	8,021,121
Other Toilet Powders	2,112,748
Dipilatories	1,502,821
Hair Tonics	10,471,885
Shampoos	5,536,996
Hair Dyes	3,330,996
Miscellaneous	44,242,180

Total\$207,462,213

The total in 1927 was \$178,473,936, which indicates that the paint and powder industry is by no means losing ground, business depression or not.

Christianity was first carried into Japan by Xavier in the Sixteenth century.

The Old Time Plumbing

By C. N. W.

"The old time plumbing
The old time plumbing
Isn't good enough for me."

Not by a long shot. Most of my old friends and acquaintances in the plumbing industry know me as being associated with Mueller Co. activities, but here's a secret. Laugh it off if you like—I was once a plumber—that is I was a P. H. and expected some day to wipe a joint or walk proudly down the street unincumbered and followed by "my helper" with a tool bag and several long pieces of 1/2" pipe on his shoulder. The best laid plans of mice and men go into the ditch as often as automobiles as did my aspirations to be a plumber. Too bad, perhaps, that I was diverted to the job of printer's devil, or maybe too good, and have never since been out of smelling distance of printer's ink.

Opportunity for Contrasting

Two years in a plumbing shop, however, in a small town of six thousand gives me a rather clear picture of the plumbing business back in the '80's and affords me a fine background for a sharp contrast of the improvements and changes that have taken place. And that's why I say the old time plumbing is not good enough for me or anyone else.

Yet one must give those old boys credit. They did not have material and accessories with which to work that the plumber of today has. And, if we are now sometimes prone to criticize business methods of plumbers, we should remember that those of pioneer days, were subjected to limitations that no longer harass the modern plumber.

An Old Time Line

The plumber for whom I worked did a little bit of everything. Plumbing was given the seat of honor but following came a line of varied industries, such as:

- Gas fitting,
- Steam fitting,
- Roofing,
- Copper-smithing,
- Smoke stacks,
- Drive wells,
- Pumps and pump repairing.

There wasn't anything we did not tackle from replacing a washer in a compression stop to tuning a piano.

Our slogan was "Let's begin on that job to hold it." We'd go out and make a gesture, and it was our job to finish when we found it convenient.

In all, however, the man was a good mechanic and made money.

His place of business was very well arranged considering time, material and the demand for his services.

There was a fair sized display room and office in front. The display consisted of gas chandeliers hung from the ceiling. Pumps, from the old pitcher type pattern to force and steam pumps.

Plumbing and gas fittings.

In the center was the stock room and back of it a workshop.

Some of the Jobs

As memory carries me back I wonder how many plumbers of today ever installed a hydraulic ram, or made a sheet iron stack up to 24" in diameter and installed it, re-lined a copper bath tub, worked all day Sunday over hot boilers on a steam fitting job, because the plant could not close during the week, put tar and gravel roofs on a building or went ten miles into the country to install wind mill pumps and fit them up for limited distribution of water. With such diversity of mechanical adaptation it isn't to be wondered at that this old "time plumber" retired many years ago to live in peace and plenty.

Inefficient and Insanitary

Plumbing was a restricted portion of the enterprise because the town did not have water works. Bathrooms were a luxury reserved only for the rich. As I look back upon some I've seen I feel safe in saying a Chinaman would not use one of those rooms today. The tub was copper or zinc lined. The toilet, the old pan variety—ye gods, think you the noble Caesar smelt like this. Not Nothing equalled it. If I had my choice today between helping repair one of these damnable "conveniences" and taking a seat on the "hot chair," I'd choose the latter and yell for joy. Lavatories came nearer approximating today's equipment than anything I recall. There was a marble slab in which was cemented the bowl. Frequently they were enclosed in a wooden cabinet which was the common practice with the sink—a rough cast iron hollow vessel with pitcher spout pump at one end. The gravity water supply from a tank or barrel in the attic depended upon how much control parents had over their sons, unless they were rich enough to have a "man."

While my experience was limited my later association places me in a position which emphasizes by comparison the "horror" of the early days in plumbing in a town without water works with the perfect sanitary engineering of the present day.

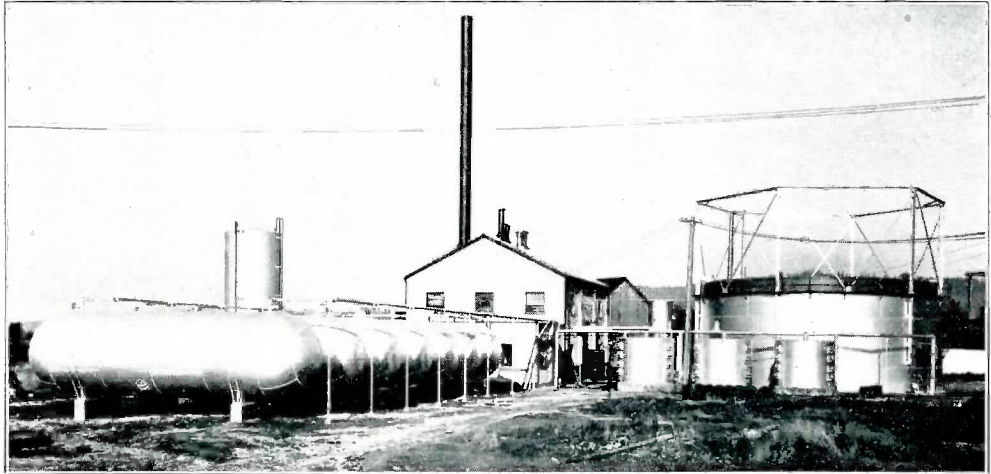
Gone Forever

When I now step into a modern bath room of today with no unpleasant sight or disagreeable odor to offend eyes or nostrils, I am prompted to say:

"Thank God those days are gone forever."

(Continued on Page 17)

Longview-Kelso Gas Plant



The cities of Longview and Kelso, Washington, have taken their place in the ranks of the progressive cities of the nation. One must not form the opinion that these two northwest communities have been lagging along at the tail end of the procession. Quite the contrary. They have been well up in the front with the band and wearing all the municipal public utility decorations except one—and that was gas. Now they have that. The Western Gas Co. of Washington threw the flaming torch of industrial and commercial gas on high which was caught up by the cities of Longview and Kelso, and they now march forward bearing it aloft to light the way to greater progress and development.



C. B. SHAKLEE
General manager of all gas properties: The Western Gas Company of Washington, The Western Gas and Utilities Corporation, The Western Natural Gas Company, The Western Gas and Pipe Line Company.



J. H. DUNBAR
General sales manager, The Western Gas Co. of Washington.

The new plant illustrated above is located at Longview. Across the Cowlitz river is the city of Kelso. To supply this city with gas, a 12" main was laid 16 feet under the bed of the river. Each of these cities has attractive sales rooms.

The manufacturing plant is designed to take care of a population of 50,-

000. It is a bituminous coal and fuel oil carbureted water gas generating set with a capacity of 25,000 feet of 525 b.t.u. gas per hour. The equipment consists of one 50,000 cubic feet single lift relief holder, seven high pressure storage holders, three purifiers, one scrubber, one oil storage tank and all necessary generators and compressors.

The distribution system consists of 25 miles of mains in Longview and 15 miles in Kelso.

This with the connecting mains makes a total of nearly 60 miles of piping. This indicates that the Western Gas Co. of Washington is prepared to give Longview and Kelso good service from the beginning.

The total physical instrument of improvement is placed at approximately \$300,000. The two cities interested have been greatly benefited by this improvement in the way of employment of labor during the past six months and the business men have also profited thereby.

Speaking of the



L. M. LONGAN
In charge of operations and construction, The Western Gas Company of Washington.



Bridge across Cowlitz river which separates Longview and Kelso showing the location of the main laid 16 feet under the bed of the river to serve the two cities from the manufacturing plant in Longview.

opening of these plants the Longview News said:

"The management of Western Gas company of Washington has proved its efficiency through a period of years in a diversified utility field. Headed by Nathan L. Jones of Salina, Kansas, the Western Gas company of Washington has behind it nine other gas companies, electric properties, many telephone organizations, ice manufacturing and distributing systems and a financial company that makes the entire structure unique in industrial life.

"This utility service is mainly supplied through the Western Power Light and Telephone company, and its numerous operating companies, supplying telephone, electric, gas, water, and ice service to thousands of consumers in many parts of the United States. By its diversification Western Power has set up a stability that has seldom been equalled in the utility history of the country. Approximately 313 communities in 17 states are served in various ways by this utility organization and associated companies.

"In the telephone field hundreds and hundreds of miles of toll lines are in operation.

"In the field of electricity 71 communities in Oklahoma, Colorado, Missouri and Kansas are being served under the system of which Western Power Light & Telephone company is the controlling factor.

"In connection with four of the electric

properties water service is supplied local communities. This gives an operation efficiency that is seldom equalled in many public utilities. It enables water to be supplied at a low cost and at the same time permits the operating overhead to be kept at a minimum.

"Ice plants under the supervision of Western Power Light & Telephone company is arranged so that the entire field has a centralized control with Nathan L. Jones as president. There are four divisions in the company, each headed by a man of wide experience and who is specially qualified to serve as executive head of his division.

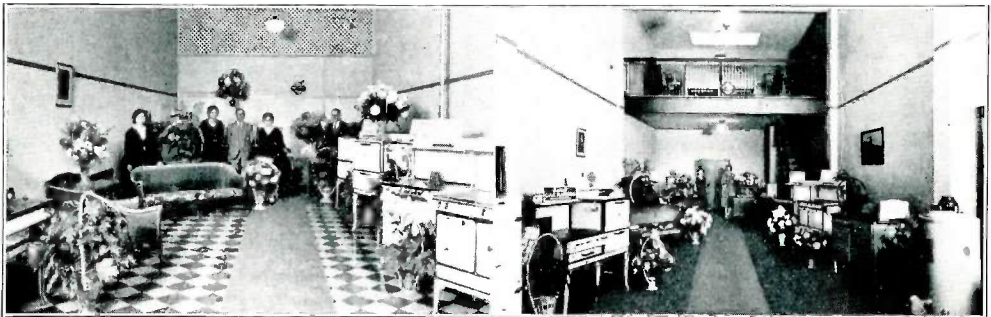
"H. J. Clark is general manager of all telephone lines, with the title of vice president and general manager of telephone properties. O. W. Mattison is general manager of all ice properties with 26 years in public utility management. D. C. Tinker is general manager of the electrical division, having had 15 years' experience in this line. C. B. Shaklee over a period of years, has acquired a wide experience in the gas properties. R. J. Long, vice-president, is charged with the responsibility of inspecting all properties before acquisition and, after acquisition, shaping them into the organization's scheme of things.

"Mr. Jones is known in the public utility world and investment circles for his integrity and foresight and is considered an authority on matters in this field, where he has spent practically all his life."

The American Gas Construction company built the Longview-Kelso plants.

PEE-WEE GOLF UNPROFITABLE

It appears that the miniature golf game is to be short lived. There were nearly as many owners as players. The craze spread like wildfire throughout the country. Every vacant lot suddenly became a golf course. In California 133 wage claims were filed against owners. An official report says that the craze for playing was not great enough nor permanent enough to make the undertaking profitable. As an example a case is cited showing the daily receipts of one of these defunct courses were \$18 while the fixed expense was \$30 per day.



Interior Kelso, Wash., offices and appliance store on opening day.

Interior Longview, Wash., offices and appliance sales rooms on opening day.

BEAUTIFUL BUT DUMB

**Who Wouldn't**

Guide—That is a skyscraper.
Sweet Young It—Oh, my, I'd love to see it work.

Short on Italian

He (getting twinge in shoulder as he turns on radio)—I believe I'm getting lumbago.

She—What's the use, you will not be able to understand a word of Italian.

Expected Too Much

A young salesman was seen to turn away from a prospective buyer of an electric washing machine, a disgusted look on his face. The "boss" immediately wanted to know why.

"She doesn't want an electric washing machine," the young man replied. "I explained in detail just how to operate it, turned on the current, and showed her how it works, and finally she pointed to the hole in the bottom and asked:

"What is that for?"

"To let the water out," I said.

"Oh, then it doesn't wash by electricity does it? You have to use water?"

Easy!

He—I can tell you how much water, to the quart, goes over Niagara Falls."

She—If you know, tell us.

He—Two pints.

Or Nightly

He (teaching her to drive an auto)—The brake is something that you put on in a hurry.

She—Oh, I see. A sort of kimono.—Arizona Kitty-kat.

Reducer's Heaven

Husband (reading aloud a newspaper report of a fire)—One woman escaped down a waterpipe at the back of the house.

Wife—How lovely to be as slim as that.

Not Wild West Rider

An elderly lady walked into a railroad ticket office at Chicago and asked for a ticket to New York.

"Do you wish to go by Buffalo?" asked the ticket agent.

"Certainly not!" she replied. "By train, if you please!"

Liked the Vase

"One ice cream cone," she cooed, and then ate it.

"Thanks ever so much for the vase," she added, as she handed back the cone.

Ought to be Linked

Young Lady Motorist—It's snowing and sleeting and I'd like to buy some chains for my tires.

I'm sorry—we keep only groceries.

How annoying! I understood this was a chain store.—Judge.

In Mama's Arms

A new clerk dictating a few days ago was in doubt as to the use of a certain phrase, so he said to the stenographer: "Do you retire a loan?"

The wistful-eyed one interrupted rather sleepily: "No, I sleep with mama."

Half, Anyway

"Look and see how much gas we've got, will you?"

"It points to 1/2, but I don't know whether it means half full of half empty."

Day Off For Baking

We read of Clara, who was so dumb she thought the store was closed because the sign said "Home Baking."—Boston Transcript.

Another Specialist

Fair Maid—Oh, sir, what kind of an officer are you?

Officer—I'm a naval surgeon.

Fair Maid—Goodness, how you doctors specialize.

(Continued from Page 14)

They were not the fault of the plumber. He did the best he could with what he had to work with. Plumbing, as in the case of all other departments of industry, had to pass through the slow process of evolution.

All Honor to Plumbers

Cooperation between the master plumber and the inventor, designer and manufacturer has brought the profession to its present high state of satisfactory efficiency which contributes in an immeasurable degree to the comfort and health of the people of the United States. It justifies the slogan applying to the master plumbers' national organization:

"They Builded Better Than They Knew." All honor to them.

THE LURE OF THE CITY

Has Attracted Many from Small Towns as New Census Shows.

The statisticians who read stories in figures are now busy on the census returns. They show what has been known for a long time—a steady migration of people from rural communities to towns and cities. What has happened in Illinois probably is true of other states, especially those whose rural communities are largely devoted to agricultural pursuits.

Comparisons of the 1930 with 1920 census are made. During that decade cities in Illinois of 10,000 or over increased from forty-four to fifty-seven. Cities between 5,000 and 10,000 show a shrinkage from forty-seven to forty-one. Figures for cities under 5000 are not yet available. In this group there will doubtless be shown a much larger loss.

Two Over 100,000

Illinois now has two cities over 100,000—Chicago and Peoria.

There are twenty-two cities with a population between 25,000 and 100,000, an increase of thirteen.

There are thirty-three cities with a population between 10,000 and 25,000, an increase of six.

Also a Natural Growth

This does not prove that all the growth of larger centers of population is due to migrations from rural centers. There is a natural growth within the population of every city.

The city of Decatur is an excellent example of steady growth from 1880 to 1930 which covers a period of fifty years. In 1880 the population was slightly in excess of 16,000, while the 1930 census shows a city a little short of 60,000, an average yearly growth of nearly 1000.

Steady Growth Substantial

It has been this steady substantial growth that has been the making of Decatur. People coming here liked the location, the natural resources and the progressive city and remained.

And in this instance the rural communities have not suffered a heavy material loss. Like all rural communities they have about held their own, with the general stores and postoffice, their churches, schools, blacksmith shops, garages, and a kindly lovable lot of neighborly people, living a life of pleasant contentment, which about 90 per cent of the city dwellers envy.

New Style Magnifying Glass

A new pocket magnifying glass is in the form of a pencil and can be retained in a pocket with a clip.

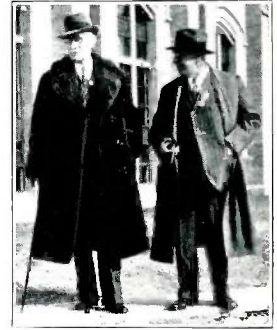
Oldest Building

The White House was the first public building erected in Washington, D. C.

TWO IOWA VETERANS

Here we have two notable Iowa Water Works men who were present at the meeting of the Missouri Valley District section of the American Water Works Association Convention held recently in Cedar Rapids.

The Mueller Record is glad to present their picture to the water works trade. At the left is Mr. Phil Carlin of Sioux City, Iowa, and at the right Mr. William Molis of Muscatine. They are old members of the American Water Works Association and are still deeply interested in anything connected with their profession. Mr. Molis, in fact, is the oldest living member of this important association. On the lapel of his coat he carries honorable recognition of his seniority. This honor was bestowed upon him at the last meeting of the Association held June, 1930, in St. Louis. At this meeting President Hinman referred to some of the older members and then to the oldest. Mr. Molis was asked to arise, which he did, and received a fine and affectionate reception from his brother members. At the same time his picture as he appeared when he joined the association was thrown on the screen followed by his picture as he is today and both of these were greeted with a great outburst of applause. Mr. Molis and Mr. Carlin have lived through a period of wonderful development and improvement in water works practice.



BIGGEST FILLING STATION

Lot of Mueller folk are in Detroit during the year will be interested in knowing that the world's largest filling station is in course of construction there. It seems appropriate that Detroit, being the leader in automobile production, should have the largest filling station. It is being built by the Firestone Tire and Rubber Co. and covers a city block, and will be fitted to handle 100 cars at a time. The four floors and basement will cover 80,000 square feet of space. Here experienced men will take care of every possible automobile need. This big station is to open April 15th.

First Electricity

It was Thales of Milatus, a Greek, who lived 600 years before Christ, who noticed that the rubbing of amber produced electrification. This was the world's first knowledge of electricity.

Athletic Club Minstrel



Our annual Christmas Festivities opened on Saturday evening, Dec. 13th, when a minstrel show sponsored by the Mueller Athletic Club was given at the Gymnasium. It was a popular affair. The attendance was in excess of 1000 persons, including Mueller employes and a few invited guests. For several days prior to the show our carpenters were engaged in arranging and fitting up the stage for the performance. The entertainment moved smoothly from the opening number. In the ranks of Mueller employes is to be found some very good amateur talent. It goes farther than this. The company members are not to be overlooked. Adolph Mueller is a black face artist himself and gets a great kick out of renewing his earlier achievements as an amateur.

When the first curtain went up the company was standing and opened with a chorus "Happy Days Are Here Again" after which minstrel formality said, "Gentlemen—Be Seated" and the show was on. The program:

Part One

- Opening Chorus—Happy Days
- Are Here Again..Entire Circle
- Down the River of Golden DreamsA. E. Lindamood
- Take Me to That River.
-W. M. Wallen
- Gaiety Quartette—Ed. Thompson, Adam Thompson, Cliff Gillibrand and Claude McClure.
- Harmonica SoloElmer Morrow
- Banjo Specialty
-Loie Conde, Harold Chapman
- Buck and Wing Dance
-Arthur Metzger

Part Two

- Fresh Air Taxicab
- AmosBurt Jackson

- AndyAdolph Mueller
- Old Black JoeAdolph Mueller
- Betty Ben-netEntire Circle
- Specialty DanceTurner Sisters
- Harmonica SoloClint Keller
- Can't You Hear Me Callin' Caroline
-Wm. Wallen
- Cornet Solo—Then You'll Remember Me.
-Abner Shirk
- Vocal DuetThompson Brothers
- Comic SketchArthur Metzger
- Betty Co-edFinale Entire Company
- AnnouncementsAdolph Mueller
- Interlocutor—B. J. Marty.
- End Men—Ed Stille, Frank Schwartz, Edward Thompson, Adam Thompson.

Circle—Art Metzger, Clint Keller, Abner Shirk, Roy Pease, Roy Baker, Cliff Gillibrand, Claude McClure, Alva Davis, Elmer Morrow, Louis Owens, Adolph Mueller, Al Lindamood, William Wallans, Jerry Edwards, Loie Conde, Harold Chapman, Burt Jackson.

Betty Co-eds—Priscilla Sattley, Gretta Anderson, Marcella Cashen, Alverda Koontz, Jane Cranston.

Topsies—Alberta Chalcraft, Alcletha Chalcraft, Dorothy Cashen, Barbara Rubicam, Elsie Hobbs, Bertha Himstead, Mary Harpstrite.

Tap Dancers—Margaret and Robin Turner.

The Staff

- Stage Director—C. G. Auer.
- Manager—C. C. Roarick.
- Accompanist—Melba Gengerke.
- Make-up Man—F. D. Powers.
- Curtain—Harley Himstead.
- Lights—C. R. Foltz.
- Ushers—Mary Wilkins, Sylvia Barnes, Opal Jackson, Clara Uhl, Lucille Smith.

Tickets—Frank Edmonson and Marshall Hobbs.



Adolph Mueller in his Old Black Joe act.

The chorus, singing, solos, duets and quartettes were indeed fine. There were many good voices used to the best advantage and showing the results of careful drilling.

Of course there were outstanding features. One was Adolph Mueller's "Old Black Joe" act. This was staged quite effectively. "Carry Me Back to Old Virginia" was heard played softly on a violin. As the curtain rose he laid aside the violin and dropped into a dose while six little girls, Topsies, came in and danced. As they left the stage Old Black Joe awoke, and sang the sweet old song to a silent and attentive audience. Adolph's tenor voice still rings true and his interpretation of the music and character got a big hand.

The vocal solos by A. E. Lindamood and W. M. Wallen were very good and likewise the singing by the Gaiety Quartette, and the duet by Thompson brothers. The harmonica solos by Elmer Merrow and Clint Keller, the dancing of Art Metzger, cornet solo by Abner Shirk, the Betty Co-eds, the Topsies, and dancing by the Turner sisters contributed to the success of the evening. All received appreciative applause.

Amos and Andy, impersonated by Burt Jackson and Adolph Mueller also claimed close attention as the two well known characters sat in the Taxicab office and cracked jokes at the expense of members of the organization.

As an amateur show it was above the average—and we should have more of them—including a girls' minstrel.

NIPS OF SCOTCH

A Bit O' Scotch

Sandy—Say, Mon, when is Annie McTavish goin' to let you marry her?

Andy—It's very uncertain, Mon. Some fool gave her a big box of letter paper with her name printed on it. She won't get married till it's used up—an' she writes very few letters on account of the postage.

Old Baby

"Come at once. Our baby swallowed a dime," an excited Scotchman telephoned a doctor.

"How old is it?" asked the doctor.

"1894," answered the Scot promptly.

Measuring Business Life

Sandy—How long has Mackie been in business?

Clerk—Judging from his typewriter ribbon, I should say 57 years.—Glasgow Citizen.

Origin of Scotch Jokes

And then there is the Scotchman who took five cents out of every dollar he received and put it into advertising, and forced six competitors to the wall who spent theirs

MASTER PLUMBERS' CONVENTION

Thousands of Delegates, Visitors and Exhibitors Will Meet in Milwaukee in June

The annual convention of the National Association of Master Plumbers will be held at Milwaukee, June 22-23-24-25. The sessions of the association and the exhibits by manufacturers will be in the beautiful Auditorium building all under one roof.

The national and local committees in charge of this affair express their satisfaction with the location and the exceptional facilities which the Milwaukee auditorium affords. Assurance is given that it will meet every requirement. Not only does this big building provide space for the main features of the annual gathering but there are enough additional rooms for all the accompanying features. Provision is also made to serve meals so that delegates, visitors and exhibitors will not be compelled to go outside for this service unless it is their choice to do so. The restaurant in the building is capable of seating and serving promptly 900 patrons.

The layout of the arena where the exhibits will be located has already been mailed out and the response clearly indicates the sale of all space.

The sessions of the National Association will be held June 23-24-25. These sessions will begin at 10 A. M. and close at 2:30 P. M. Under this plan the delegates will have the remainder of the day and evening to devote to other features.

Some of the special features of the convention will be daily concerts in the arena by a first class orchestra, the sales promotion meetings to be addressed by speakers of national reputation and the customary social features.

The central location of Milwaukee, its proximity to Chicago, Lake Michigan and the many beautiful scenic trips through Wisconsin are depended upon as magnets, drawing an unusually large attendance. In addition to this President Geo. H. Drake, his assistant R. H. Mattison, the National Association committee and the local committee are putting forth high-powered efforts to make the National Convention a tremendous and outstanding success.

WHICH IT WILL BE.

for fancy drinks which were the inspiration for funny stories about Scotchmen.

Escaped

"That's getting out of a tight place," said the tourist as he crossed the border from Scotland into England.

A Worm That Did Not Turn

Two Scots were fishing, but were new at the game.

"Got a bite yet, Jock?"

"Naw," said Jock, "I don't believe my worm's half trying."

Butte, Montana, Water Works

Butte, the largest city in Montana, is situated in one of the most picturesque sections of the Rocky Mountains on the slope of the great Continental divide, at an altitude of 5700 feet. It is rich in mineral wealth. Buried in the earth are untold millions of gold, silver, copper, zinc, which make it one of the greatest mining centers of the world. Wealth of fabulous sums have been taken from its mines while still greater wealth awaits the miners' pick and shovel and modern machinery. An idea of the extent of Butte's mining operations may be gleaned from the fact that the city has 253 miles of streets, while her underground works aggregate something like 3,000 miles.

The city is also rich in western history and traditions. It's famous in song and story. It is reached by three transcontinental railroads, several local lines and trails that smack of pioneer days—the Yellowstone Transcontinental, the Vigilante and the Banff to Grand Canyon and National Park Highway.

Nestling in the mountains as if hiding from the outer world it possesses all advantages of a big city with public utilities and conveniences, and by no means the least of these is its water works system.

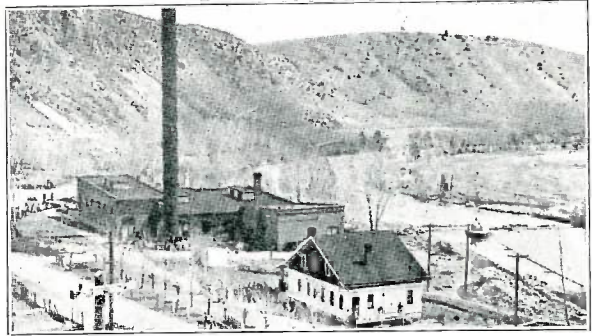
Interesting as Fiction

The history of this plant as told by Vice-President and General Manager Eugene Carroll in a paper read before the Montana Section of the American Water Works, is interesting as fiction but told in matter of fact statements of the engineer and a man of experience.

The obstacles encountered have been numerous and stubborn but they have been conquered.

Mr. Carroll went to Butte in the fall of 1891 to supervise construction of a masonry dam on Basin Creek. Soon after he was made superintendent of the Water Works plant. Ever since then he has had charge of design, construction and operation of the plant.

When Mr. Carroll assumed control the plant had 19 miles of distribution mains, 1750 consumers in a population of 11,000. Construction work began Oct. 1, 1891. In 1892 the construction of the Basin Creek Dam was commenced. Rapid increase in population, growth of mining, political trouble with the municipality and algae trouble with the water supply made financial difficulties for the company, making it impossible to finance needed improvements. In 1898 a receiver was named, the company was reorganized as the Butte Water Company. This enabled the company to secure \$1,000,000 additional capital and procure additional water



Big Hole pumping plant; installed 1899; electrified 1913; total pumping capacity 15 million gallons daily; supply from Big Hole river. Elevation 5,402 feet above sea level.

supply from Big Hole River. Since then matters have moved more smoothly. The company is now incorporated under laws of New Jersey, capital \$5,000,000 of which three million has been issued. There is no bonded indebtedness.

The company supplies the Butte mining district which includes the incorporated cities of Butte and Walkerville, and the adjacent communities of Centerville, Meaderville, East and South Butte, covering an area of about 15 square miles and varying in elevation from 5400 to 6368 feet above sea level.

Complicated Problem

The problem of supplying water to a community at a high altitude, practically on the Continental divide, was an interesting problem complicated by the fact that the only stream of any consequence within the vicinity was Silver Bow Creek, the water of which was not potable because of being used for general sewage of mines and inhabitants. The streams above these industries are small and notwithstanding the development of two of them made available by large storage reservoirs, the annual gravity water supply amounts to only about 6,000,000 gallons average per day. This made it necessary to develop a supply from the Big Hole river on the opposite side of the continental divide and pump water across the divide, a distance of about 27 miles. Butte is located on the side of a mountain within a horseshoe in the continental divide and the district is drained by Silver Creek—one of the headwaters of the Columbia river which flows through a box canyon to the west.

Two Pumping Stations—Five Reservoirs

The entire system is comprised of two pumping stations, five storage reservoirs with a capacity of seven hundred million gallons, 81 miles of transmission mains, ranging from 12 to 26 inches, five distributing reservoirs

Many of the difficulties and grief experienced by water works officials in the operation of a water works plant can be eliminated by the use of good materials and careful attention to details of construction. Often low first cost is forced on engineers against their better judgment and invariably results in loss and maintenance and repairs after construction. It is a pleasure to state that construction of this plant, while often in financial straits, nothing was attempted unless the funds available were sufficient to procure the very best in workmanship and material and of ample size. **IT IS BETTER TO DELAY THAN USE CHEAP SUBSTITUTES.**—Eugene Carroll.



EUGENE CARROLL
Vice President and General
Manager, Butte Water Co.

While always avoiding extravagance in the construction of the plant, economy at the expense of sound engineering principle has never been practiced. Every part is constructed of the best material obtainable, and extreme care has been used in its erection. To this may be attributed the fact that no costly mistakes have developed in the physical plant, and our operating costs have always been relatively low. **IF THE PLANT WERE TO BE REBUILT AT THE PRESENT TIME, THE WRITER KNOWS OF NO MATERIAL CHANGES WHICH HE WOULD CONSIDER ADVISABLE, OTHER THAN IMPROVED MACHINERY.**—Eugene Carroll.

with a total capacity of 18,000,000 gallons and 150 miles of distributing mains from 12" to 20" diameter. Pumping stations are at Big Hole River and West Side. Storage reservoirs are on Basin Creek and the head waters of Silver Bow Creek. The South Fork reservoir located on Divide Creek is both storage and distributing.

Distribution System

There are five divisions of the distributing system. The Moulton System supplying Walkerville to the north and receiving water from the Moulton reservoir. The High Service System supplying Centerville and adjacent mining properties receiving water from Moulton reservoir augmented by the West Side Pumping Station.

The middle system extending from the north limits of the city of Butte to an elevation of 5700 feet on the south receiving water from West Side reservoir supplied by the Big Hole system.

The lower system extending from elevation 5700 feet to the south limits of Butte including Meaderville and mining properties in that vicinity, receiving water from Basin Creek reservoir augmented by the Big Hole system. The South Side system including all the communities south of the south limits of Butte, receiving water from South Side reservoir supplied from Basin Creek reservoir.

All systems are connected by valves and in emergency it is possible to augment any district from the system above. Basin Creek reservoir dam No. 1 is located on Basin Creek 13 miles south of the city limits. The elevation of the coping is 5873 feet above sea level. The dam is at the junction of Bear and Basin Creeks with a length of crest 270 feet. The crest is 73 feet above the concrete bed and 171 feet above the lowest point of the foundation. There are three 20" cast iron pipes through the bottom of the dam, two for



M. W. PLUMMER
Supt. Butte Water Co.

Fork of Divide Creek, a stream heading on the continental divide and flowing to Big Hole river. The maximum height is 33 feet with a top width of 16 feet and a length of crest of 315 feet. Capacity 13,472,000 gallons. In addition to storing water of Divide Creek, it holds water pumped from the Big Hole station. The water runs by gravity from the South Fork reservoir to West Side Distributing Reservoir in town.

Moulton Dam No. 1 is located on the head waters of Silver Bow Creek 7 miles north of the city of Butte. It has a top height of 60 ft., top width 15 ft., length of crest 500 feet. A 24" outlet pipe of cast iron imbedded in concrete turns the water from the reservoir into the creek below. It is regulated by a valve located in a valve chamber just inside of the upper toe of the dam. There is also an 8" cast iron blow off pipe. The top of the dam is at an elevation of 6756 feet, 60 feet above the creek bed, the bottom of the core wall extending 28 feet below the creek bed. It forms a reservoir having a capacity of 261,000,000 gallons and has a large concrete overflow.

There are five distributing reservoirs of various construction, all of concrete.

Pumping Stations Equipments

Big Hole Station: Two horizontal triple expansion Nordberg pumps; one Worthington five stage turbine. The Nordberg pumps were originally steam driven, but have been converted to electric drive. Pump No. 1 was converted by replacing fly wheels with herring-bone gear driven by electric motor. No. 2 was electrified by disconnecting the steam end and installing an electric motor at the other end, driving two 24 feet wheels with rope drive. The steam connection of No. 2 was left so that it can be quickly reconnected in case of emergency. Capacities: No. 1, 5,000,000.

No. 2, 4,000,000 and No. 3 which is a 12" five stage horizontal turbine, 6,000,000 gallons daily. All three pumps are driven by induction motors, No. 1 and No. 2, eight hundred horse power, and No. 3 thirteen hundred horse power. No. 4 installed 1930, is a 4-stage Cameron, 12" horizontal turbine, 6,000,000 gallons daily capacity.

The engine room floor is 5402 feet above sea level. From here water is pumped to elevation 6152 feet, where it enters South Fork reservoir. The friction loss requires the operation of the pump under pressure of 360 to 375 pounds per square inch. There are two 300 horse power Sterling Water tube boilers kept in condition for the steam end of No. 2 pump in case of emergency.

The pumping station is brick

construction, concrete foundation and floor equipped with traveling cranes and repair shop. Three modern houses take care of the employes. The grounds are beautified and are maintained as a public park.

The West Side Pumping Station which supplies the deficiency in the high service system is located at the West Side reservoir and is equipped with two Nordberg rope driven pumping engines, horizontal duplex type, driven by fourteen feet rope wheels mounted on crank shaft. Each pump is driven by a 3 phase 150 horse power induction motor 450 r.p.m. pumping against a pressure of 150 pounds. The suction pipes connect directly to the west side reservoir and deliver water to the high service reservoir at elevation 6,255 feet. The elevation of the pump house floor being 5,949 feet. Capacity of pumps 2,000,000 gallons each 24 hours.

A triple expansion duplex Worthington pump operated by two 80 horse power horizontal tubular boilers is kept in reserve at this station.

The pump house is of brick construction, concrete foundation and floors equipped with traveling cranes. The grounds surrounding this plant are beautified and maintained by the company as a public park. A modern brick residence is provided for the watchman and a large warehouse is maintained.

The Influent Pipes

These are an interesting feature of this great system. Between Basin Creek Reservoir and the city system are two parallel lines constructed in 1892 and 1914. The first is 49,750 lineal feet of 24" banded Redwood continuous stave pipe; the second 38,100 lineal feet of banded continuous stave fir pipe; 12,930 lineal feet of 24" Matheson joint steel pipe.

From Big Hole pump house to the West Side reservoir are two parallel influent pipes. One built in 1899-1900 is 27.1 miles long from the pump to the reservoir with a capacity of 8,000,000 gallons daily. This pipe consists of 3,055 feet of 26" riveted steel pipe, 43,502 feet of 26" wooden pipe to South Fork Reservoir, thence 97,912 feet of 24" wood and 26" steel pipe to the West Side distributing reservoir in Butte. Banded continuous stage redwood pipe is used for heads up to 250 feet and rivetted steel for higher heads. Total length of No. 2 is 138,958 feet consisting of 3525 feet of 26" and 22,211 feet of 24" lap welded steel pipe and 43,422 feet of 26" and 70,800 feet of 24" continuous stave redwood pipe. Wood pipe was used for all heads under 300 ft. On both these lines 26" pipe was used between Big Hole Station and South Fork reservoir and 24" between South Fork and West Side reservoir.

On each line between South Fork and West Side reservoirs are four regulating chambers to reduce pressure limits for low head wooden pipes. Each chamber contains a float valve on the outlet side, and also an overflow, which prevents pressure on pipe lines below if the valve should fail.

Pine line No. 2 is lap welded steel pipe with beveled ends. Circumferential joints are oxyacetylene welded. Weir chambers are installed on each line where they enter the West Side reservoir.

Connecting Moulton reservoir with the distributing reservoirs north of Walkerville is an influent pipe line of 12" wood and 16" steel pipe 22,900 feet long. Fifty-seven hundred feet of 12" wood pipe connects the reservoir to a sand screen chamber from which point it is carried through 17,200 feet of 16" Matheson joint steel pipe connecting to the distributing reservoirs. The screen chamber is also connected with the creek and at certain seasons considerable water is secured in addition to the water in the reservoir. At the lower end of this line a Weir chamber is installed before entering



Cutting a 16" O.D. Matheson Joint pipe, National Coating, with air hammer, in Yankee Doodle Canyon, for installation of a fitting. Joints caulked with air hammer under 140 pounds maximum pressure. Miles of mains of the Butte Water Company are imbedded in solid rock. This scene is typical of the engineering and construction problems which Mr. Carroll battled with successfully.

the reservoirs and a Wallace Tiernan installation chlorinates the water.

A 14" wire wound fir pipe connects Fish Creek and the Basin Creek system, diverting the head waters of Fish Creek across the continental divide, emptying into the water shed of Basin Creek. A concrete Weir chamber is installed on the summit from which the water flows in natural channels to Basin Creek. This pipe line takes the water from Fish Creek at an elevation of 8493 feet, crossing a deep valley with a maximum pressure of 300 feet and discharging into Basin Creek water shed at an elevation of 8400 feet. Its capacity is 3,231,000 gallons daily.

Two miles south and west of the city a 12" pipe connects the two Big Hole lines with the Basin Creek system which provides delivery of water from the Big Hole system to the lower Basin Creek system and the South Side system without passing through distribution system.

Distribution

In the distribution system Kalamein steel pipe is used exclusively because of its flexibility which meets the unusual condition imposed by the continual movement of the ground due to mining operations.

This movement causes telescoping and pulling of joints, failure being indicated by small leaks rather than sudden breakages. In some instances joints have telescoped as much as 11".

Mains are laid 6 feet in the ground. The average frost penetration is five feet with a maximum of 7 feet.

(Continued on Page 28)

At first thought the plant impresses one as being complicated and of entirely too large a capacity for a community of 65,000 people. When it is considered, however, that the mining properties in the vicinity of Butte, large consumers of water, are dependent entirely on this plant, and when it is realized that in case of fire under ground, an enormous amount of water is required quickly, the reason for building a plant of such capacity is explained. The apparently complicated design, requiring five separate distributing systems, is caused by the contour of the territory served, and its high elevation above sea level.—Eugene Carroll.

HOLIDAY FOR THREE



Dale Wilkin, Junior Ruthrauff, Billy Draper

There are three boys—Billy Draper, Junior Ruthrauff and Dale Wilkin, who will remember the Illinois-Ohio football at U. of I. Stadium, Nov. 22nd, when the experts have forgotten the time, the place and the players. It was the first big football game they ever attended and under circumstances always to be remembered.

President Adolph Mueller was attending the game and he invited the three boys to be his guests. The invitation came to them out of a clear sky. That was the first surprise, but surprises followed in rapid succession. There was the 60 mile drive through a beautiful portion of Illinois farms, towns, and the government aviation field at Rantoul, the magnificent buildings of the U. of I. the stadium, the "eats," the crowd, and the game.

It was a day of fun and thrills. After their return Mr. Mueller addressed a letter to his young guests asking a number of questions, just to test their memory and powers of observation and received three replies. The one here printed is typical of all:

Decatur, Ill.
Nov. 30, 1930.

Dear Friend:

I was pleasantly surprised when I was notified that I was invited to attend the football game with you.

I speeded up the steps and was dressed and washed in a hurry. Soon I was being introduced to you by my Dad.

Me not being used to the office I thought the ringing of the telephones and the clicking of the typewriters was very noisy beside our school room.

After waiting for an hour and a half, which seemed like a couple of months, we were off to the first big football game I ever saw. We went in Mr. Robert Mueller's car. The members of the party, yourself, Mr. Adolph Mueller, Mr. Robert Mueller, Judge Baldwin, Junior Ruthrauff, Dale Wilkins, and the chauffeur Amos, and myself.

We were on the way to the Illinois-Ohio football game.

After passing fields after fields of shocks of corn we arrived at the football field where we ate. We boys had hot cocoa and plenty different varieties of sandwiches. Also we had cookies and apples which we put in our pockets. I felt so good and peppy I thought I could go and take a quarterback's place and win for Illinois. When I entered the university stadium it was the largest structure I was ever in. The cement walks with cement railings which lead to the top of the stadium reminded me of the gang plank of a ship. We were shown our seats and I was ready to see the game.

The Ohio team had some big men on the line but we could get through their line and they

could get through ours. The teams were pretty well matched.

The football game was a very good one and exciting. There were a number of passes, some were good and some not good at all. The hidden ball trick was not so good because the man with the ball was always found and downed with little gain. Line plunges were like running into a stone wall.

A Ohio man got in the way of a flying mad man and was laid on his back with three or four cleats planted in his face.

The score was, oh, I was so disappointed because it was nine to twelve favor of Ohio, but as I said before it was a very good game.

Between the two halves the Illinois band marched around the field playing and the Indian did his war dance. The band formation spelled Illini and Ohio. I never did see a band as large as the Illinois band.

After the game we were soon facing the blinding sunset. It did not take us very long for we were soon home. I sure did have a swell, exciting and wonderful day. I wish to thank you for the real time I had.

Yours truly,

Billy Draper.

The boys were Billy Draper, son of O. C. Draper of the plumbing division of the sales department, Junior Ruthrauff, son of Press Ruthrauff of the cost department, and Dale Wilkin, son of Al Wilkin, of the engineering department.

By a rising vote they decided Adolph a good sport.

EVERY EMPLOYE PAYS A SHARE

Every employe pays for superintendence and inspection, said the late Elbert Hubbard. Some pay more and some less. That is to say, a dollar-a-day man would receive two dollars a day, were it not for the fact that someone has to think for him, look after him and supply the will that holds him to his task. The result is that he contributes to the support of those who superintend him. Make no mistake about this: Incompetence and disinclination require supervision, and they pay for it and no one else does. The less you require looking after, the more able you are to stand alone and complete your tasks, the greater your reward.

Ratio of Reward

Then, if you can not only do your own work, but direct intelligently and effectively the efforts of others, your reward is in exact ratio, and the more people you can direct, and the higher the intelligence you can rightly lend, the more valuable is your life.

Law of Wages Exact

The law of wages is as sure and exact in its workings as the law of the standard of life. You can go to the very top and take Edison, for instance, who sets a vast army at work—and wins not only deathless fame, but a fortune, great beyond the dreams of avarice. And going down the scale, you can find men who will not work of themselves and no one can make them work, and so their lives are worth nothing, and they are a tax and a burden on the community. Do your work so well that it will require no supervision, and by doing your own thinking you will save the expense of hiring someone to think for you.

Service and Suggestion Awards

THE CHRISTMAS SPIRIT

During the holiday season Mueller Company distributed in cash prizes, service awards and presents to employes a sum amounting to \$22,258.86.

Of all the meetings for grown-ups the most interesting to the greatest number was the one held at the gymnasium on the evening of December 19th. It was at this meeting that long terms of service were rewarded, appropriate cash prizes given out and prizes given for 18 different suggestions covering three subjects, as follows: Increasing Production, Reducing Overhead, and Safety.

In 1906 the company began giving \$500 to each employe at the end of 20 years service. This was later changed so that the award was divided in 4 periods ending at stated times. On this occasion there were 234 men and women who divided the sum of \$17,943.88 between them, divided into the following classes:

Yrs. of Service	No. of Employes	Each	Total
4 1/2	65	\$ 30.00	\$ 1,950.00
5	79	33.00	3,267.00
9 1/2	15	60.00	900.00
10	50	66.67	3,333.50
14 1/2	1	120.00	120.00
15	6	133.33	799.98
19 1/2	6	240.00	1,440.00
20	14	366.67	5,133.38
35—Wm. Seeforth			1,000.00

Total Service Awards\$17,943.86
 Total Suggestion Prizes 905.00
 Total Value of Presents 3,410.00

Emblematic gold jeweled service pins of different designs were handed each employe receiving these awards for service.

A complete list of prize winners was published in the December Record. Some additions were made to those serving the longest periods and they are repeated.

Twenty Years: \$366.67 completing \$500 for twenty years service—Joseph Baldrige, J. G. Bauer, Carlos Dano, Rex Funk, H. Glenn, J. Graebenhofer, Charles Kuntz, William McCarthy, G. Leiuski, Gus Pauchert, M. Pippin, J. Riewski, Dave Washburn and George Webber.

Twenty-five Year Men—Service Buttons only: C. O. Foster, J. W. Layman, L. F. McKibben, P. D. Ruthrauff, Fred Schliff, Frank Smith, G. Teike and J. M. Wilkins.

Frank Taylor, president of the Foreman's Club, presided at the meeting. He presented to company members a certificate of cash for \$108.18 and also to General Superintendent Roarick one for \$84.50 representing

money contributed by employes for Christmas presents. Adolph Mueller on behalf of the company expressed his appreciation and stated that under existing circumstances it was felt this money should be turned over to a special relief fund for relief of our less fortunate co-workers. Supt. Roarick did likewise. These acts were warmly applauded. In addition to this money \$108.00, receipts from the minstrels and \$4 from the Woman's Club were added, increasing the special fund by \$304.68. This fund is entirely apart from our regular relief fund.

A letter to the employes from Robert Mueller, now in California, was read by C. N. Wagenseller.

President Mueller spoke briefly on general topics. He urged young folks to improve themselves by reading and study. "You are not to be denied pleasure, but think of something else beside dances and picture shows. Pursue some course of reading and study. We have a school for apprentices who are paid while they study, classes for foremen and assistant foremen. We are going to have a class for the study of economics. We should like to see all these filled up."

CANNING CRANBERRIES

We've canned practically everything we eat and now a process has been developed through which cranberries are made an all-the-year-around side dish for the table. It has taken a long while to accomplish this. The production area of this fruit is limited and for years it has been accepted as a winter delicacy only and in particular associated with turkey and Thanksgiving.

Cranberries are a product of Massachusetts and therefore presumably aristocratic. They are grown in that state, New Jersey and Wisconsin, and their cultivation in Nova Scotia is increasing. The fruit requires low sandy land which can be flooded and drained, and freedom from frost. The plant is a trailing evergreen shrub with oval leaves and small pink flowers. The annual crop in this country is about 40,000,000 quarts. The old world cranberry grows on a smaller vine, the berries are smaller and not so much attention is given to its cultivation in Europe as in this country.

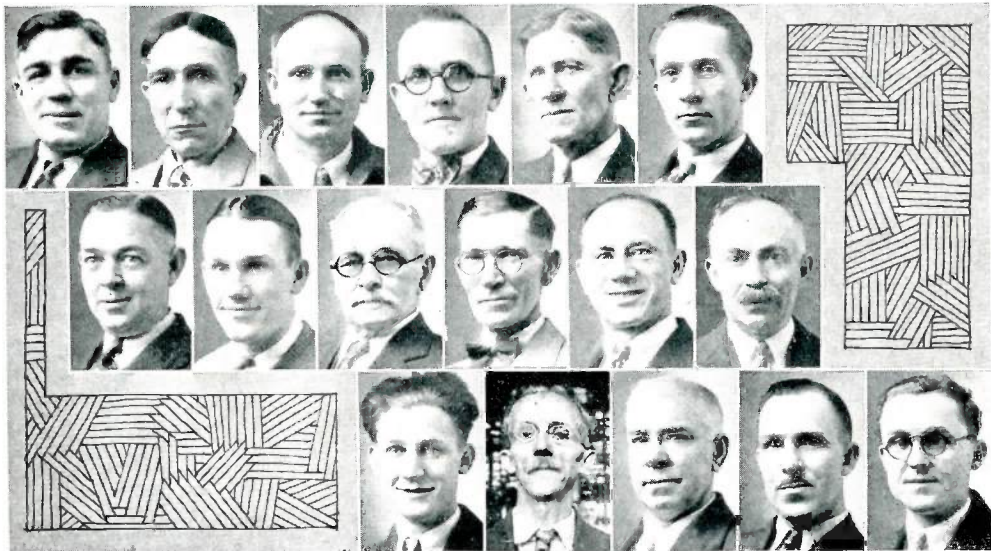
Ox Carts Licensed

Every one of the 22,000 ox carts in El Salvador must have "traffic permits" to travel the roads. These are in the form of little license "tags" attached to the cart.

Talcum

Death Valley, Cal., now produces 20,000,000 pounds of talcum powder every year.

\$900 for Suggestions



Top Row, left to right—Safety Suggestions: Henry Morey, Joe Rouleau, W. E. Lewis, J. C. Gray, E. L. Rankins, C. D. Kelly.
 Middle row—Increased Production: Suggestions—C. M. Guard, Leo Wiant, Joe Brady, W. W. Adams, C. T. Utt, G. A. Hodges.
 Lower row—Reduced Overhead Suggestions: Charles Johnson, Abner Shirik, George Morris, Joe Ronleau (picture shown with Safety Suggestion winners), Marshall Hobbs, L. B. McKinney.

The Suggestions

Cash prizes were given seventeen men for best suggestions on safety, reducing overhead and increasing production. There were 6 prizes in each of these three divisions and the prize winners were:

Increased Production

First—C. M. Guard	\$100.00
Second—Leo Wiant	60.00
Third—Joe Brady	40.00
Fourth—W. W. Adams	25.00
Fifth—C. T. Utt	15.00
Sixth—G. A. Hodges	10.00

Reduced Overhead

First—Charles Johnson	\$100.00
Second—Abner Shirik	60.00
Third—George Morris	40.00
Fourth—Joe Rouleau	25.00
Fifth—Marshall Hobbs	15.00
Sixth—L. B. McKinney	10.00

Safety Suggestion

First—Henry Morey	\$100.00
Second—Joe Rouleau	60.00
Third—W. E. Lewis	40.00
Fourth—J. C. Gray	25.00
Fifth—E. L. Rankins	15.00
Sixth—C. D. Kelly	10.00

Total\$750.00

Five Dollar Prizes

W. W. Adams, Wm. Brady, R. R. Burris, Garlin L. Buck, John Curry, Mervel Curry, R. K. Duncan, Marshall Hobbs, L. Kramer, John Leonard, Matt. Like, L. B. McKinney, Lawrence Olsen, Roy Pease, F. D. Powers 2 prizes, Joe Rouleau, Pauline Ryder, Cecil Short, Wm. Tarr, Dewey Tripp, Dorothea Uhl, C. T. Utt four prizes, J. B. Van Bellehem, Leo Wiant, Milo Wright, G. J. Yonker.

TAIL LIGHTS FOR ELEPHANTS

Automobiles and drivers have been responsible for a great deal to do with legislation designed to protect life and property. In this country practically every element of danger on the road has been safeguarded, but still we are overlooking a bet and find ourselves behind the people of Kandy, Ceylon. In that island of tea, coffee and spice, the autoist have secured an ordinance requiring owners of elephants to provide tail lights for the huge creatures. This is the result of many collisions which caused the elephant to wiggle his ears and wrecked the cars. Headlights must also be provided.

High Pressure

Steam pressures now are as high as 1,200 pounds per square inch for turbine units. This means that the pressure on one square inch would lift the average sized horse.

AWAY DOWN SOUTH

By C. N. W.

The Dixie highway and the Andrew Jackson highway, together with numerous other memorial arterial highways, are a delight to drivers. When you leave these, however, in Georgia and Alabama, you strike dirt, gravel, or red clay or macadam roads of various degrees of comfort. The macadam roads are satisfactory and the red clay roads in good weather are likewise, but one can't help wondering what they would be like under a heavy rain or protracted wet season. We've had experience with Illinois yellow clay roads and know what they are. We admit that the red clay is prettier to look upon and drive upon when dry but this superior feature is not sufficient to make one try them when wet. Native opinion is divided. The majority tell you that you can drive on these roads in any kind of weather, while the less loyal and enthusiastic but more conservative say "if you get into that red gumbo once, you lose respect for it even when dry."

* * * *

There are exceptions of course. Night is different from day—so are people. Trying to make Montgomery, Ala. after dark with no visible road signs and uncertainty as to the route, we desisted one of the few passing autos approaching. Pulling to the side of the road, we stationed ourselves in front of the car and waited. When the approaching car was within 20 yards we began shouting and waving our hat. The effect was magical but disappointing. The car approaching at a speed of 25 miles was accelerated instantly and passed us at 60 miles. We had the satisfaction of not being made into a human sieve by some suspicious colonel with good aim and a dependable automatic.

* * * *

Two miles further on a colored man on a white mule passed. In stentorian tones we yelled "right road to Montgomery?" The effect on the colored man was no less startling than on the auto driver. Such a whack as he gave that mule made us wish for a Humane Society, and such a burst of speed as that wreck of a mule displayed would have been a credit to Gallant Fox. Ichabod Crane as a get-away artist from the Headless Horseman became a piker by comparison. And at last it was a colored man walking on the highway who gave us reliable information, when we took a chance on stopping and hailing him.

* * * *

And this brings to mind a new problem to succeed the old one of why does a chicken cross the road? Why do so many people walk the southern highways. Day and night you see them—white, colored, well dressed or in tatters. Always going some where. Not thumbers—just walkers plodding patiently and persistently along the highways, sometimes singly, and frequently in laughing, chattering groups.

There is one thing noticeable to northern automobilists. Except in the vicinity of the larger cities there is nothing comparable to the traffic on the northern highways. Another feature which we observed was the flaming youth of the south does not drive cars as they do in the north. Adult drivers predominate in a marked degree. The proverbial southern courtesy is not forgotten. In the north we have learned to ignore appeals for aid. We have ceased to trust fellow automobilists. Our policy is to let the fellow who gets into trouble get out of it as he got into it—without outside aid. This is not so in the south. There they still have a fellow feeling for the unfortunate brother who becomes the victim of ill luck or accident. Invariably they stop and ask if they can be of assistance, and there must be times when this proves manna from heaven because towns are not so frequent, telephones so plentiful or garages so numerous as in the north.

* * * *

We failed to find the slightest tinge of bitterness against the north, but plenty of reverence and loyalty to the ideals of the south and its traditions. In Albany, Ga., a beautiful little city of fifteen thousand, the United Women of the Confederacy were holding a state convention. On every business street United States flags were floating from staffs placed at the sidewalks edge. The world war which made comrades of American youth from all sections coupled with new generations of the south have done much to wipe out the rancor of the civil war, which now is only a matter of history.

* * * *

A hurried trip through the south affords only a cursory view of the colored folks. In the cities and big hotels the porters and bell boys are very much as we find them in the north, except more anxious and more courteous. They are intelligent and clean looking. In the back districts we should say they do not show any great advancement, speaking of the older classes. Apparently there are plenty of negro schools for the children. The better class of white people, at least, treat the colored people with great kindness and consideration illustrated by a little incident in a household. The colored maid told the mistress in mid-forenoon of a dry goods sale in progress where she was anxious to make a few purchases. Might she be excused for a few hours. Why surely she could, but was advised to be back to prepare lunch. We wonder if northern women permit their maids to stop in their forenoon duties to go out and attend bargain sales. However, in all this kindness and consideration lies the invisible line of demarkation between the races.

* * * *

Advice to motorists: : If you ever come to the small town of Warrior, Alabama, hold 'er down to 15 miles per hour. Before you enter the town you'll see a large sign which conveys the information that the speed limit is 15 miles and that state road and other

police are on hand to see that the law is obeyed. They were there all right, one at each entrance and one about midway. Evidently Warrior has a sustained reputation, for enforcing this speed law. Cars we passed were creeping through the sleepy little town at the prescribed speed.

(Continued from Page 23)

Recording pressure gauges are maintained at the Galena St. shop at an elevation of 5699 feet and on the West Side and Upper Basin Creek services.

The system is so divided that a pressure of from 105 to 117 pounds is carried in the congested districts with a minimum of 60 pounds in the outlying residential districts at extreme elevations.

The South Side system is located between elevations of 5425 and 5510 feet. It's almost all residential. A 20" main crosses the south boundary with 12" mains branching north.

The lower system receives water from Basin Creek Reservoir supplying minor residence districts, an important ware house section and the mining district. Elevations range from 5510 and 5710 feet. Two 20" supply mains from Basin Creek transmission mains extend to the southern limit of the service continuing in two parallel lines on each side of 18" and 16" which are cross connected at various points by 12" mains.

The middle system supplies the main business section and high class residential section. The supply is by gravity from the West Side reservoir, elevations ranging from 5600 to 5910 feet. This district is supplied through 16" and 14" mains running from the reservoir around each end of the district and grid-ironed with 10" mains.

The high service system supplies residential districts and mining districts north of Butte from the West Side pump. Part of this is by gravity from the Moulton Distribution reservoir. Mains range from 6" to 14".

The Moulton system supplies a section at a higher altitude than the high service reservoirs, principally residential. It receives its water from the Moulton distribution reservoir through two 12" mains.

The average annual daily consumption runs between 9 and 11 million gallons. Over 20 per cent of all water is used by mines through metered service.

The distribution system consists of 792,639 lineal feet varying from 2" to 20". There are 765 fire hydrants, 113 of which are paid for by private parties. There are about 10,763 consumers of whom 861 are metered. All large consumers are metered; private residences are metered on request. Meters are owned and installed by the company without expense to the consumer. Licensed plumbers make house connections, the company furnishing corporation stops and making the tap free. Curb stops are furnished plumbers only at cost. All house connections must be 6½ feet deep. Municipalities served pay for fire protection at so much per hydrant and also for street sprinkling.

And it's an agreeable ending to us to add from a statement by Mr. Carroll that:

Mueller Co. Brass Goods for house connections have been used exclusively since 1895 with excellent results. I only remember of one defective curb cock requiring renewal in that period.

Seeds Wash Away

Recent estimates of the U. S. Department of Agriculture indicate that a total of 126,000,000 pounds of plant food is washed out of the soil every year.

An Old Timer

Bones of a mastodon that once roamed over Missouri have been found near King City.

HOW LONG WILL IT STAY UP?

It seems to be human nature to want to do something better than the next fellow, or to do something that no one else has yet accomplished. That, perhaps, is the spirit which started the epidemic of endurance contests, Marathon dancing, flagpole sitting



and tree sitting attracted those who were looking for newspaper publicity or cash. These contests were utterly ridiculous and sometimes dangerous to health, but the spirit behind them was perfectly natural.

A better example of the desire to excel is to be found in the airplane endurance flight. The object is the same—to beat all previous records—but these flights are undoubtedly helpful in developing better airplanes.

Right now we are planning an endurance flight that will tax all our powers. Our 1931 safety record will take off on January 1. How long can we keep it up?

"CHECK AND DOUBLE-CHECK"

Did you ever see a crowd of mechanics "tuning-up" a plane for a cross-country flight asks C. O. Sappington, M.D., Director Industrial Health Division, National Safety Council? Note the care given to all the tests and how particular they are about the motor.

By the way, how is your human motor (heart) anyway? Have you had it checked lately? Is there too much carbon in your cylinders?

Strange how people take such good care of their motor cars and watches but wait until they themselves break down before consulting an expert "body-mechanic."

A health examination once a year will help to check minor types of disability before they become serious.

Each morning as you say "How do you do" to your friends and they reply "pretty well, how are you?"—just think for a moment and ask yourself whether you really know as much about your own condition as you do about your car and your watch.

Check and double-check your health.

DOING WITHOUT PLUMBING

Young Decatur Woman Bears the Burden Uncomplainingly.

Custom has so blunted appreciation of everyday blessings that many persons give them no thought at all. There is plumbing. Nowadays nearly every householder has plumbing in some degree—if nothing more than a kitchen sink. Even that is something to be thankful for. The average American goes to his bath room, turns a faucet and as if by miracle fills his lavatory or tub. Not with cold water alone, but with water of a temperature suited to his own personal desires. That's as much thought as he gives to the greatest of all household blessings except when a faucet washer wears out after years of service.

Forgets the Blessings

Then his thoughts are not of the blessings he has enjoyed. They are evil thoughts directed against the manufacturer and the plumber in not providing everlasting material. There are thousands of this class of persons. We all know them and we wish now they could all read the letter from a Decatur girl, who is with her young husband, an engineer in Soviet Russia, looking after American business interests. She was accustomed to sinks, lavatories, toilets and bath tubs. Like any good American she accepts her present position uncomplainingly, but the contrast she draws between her past and present household life! Read it!

Buys Water Daily

"Housekeeping is much more of a problem than it is at home. We have none of the modern conveniences except electricity and that was installed only two weeks ago. It is a wonderful help. Before that, we had used kerosene lamps. Our water for all purposes is hauled from the river. We have galvanized water cans and the 'water man' comes every day. We boil it for drinking, of course.

"Then, we have a pit in the corner of the yard where we put the garbage, waste water, etc. It is surprising how much water we use, too.

She Realizes Now

"You never realize how much is used when you can turn on a faucet and get all you want, but when you have to go even to the vestibule and carry the water in pails, you notice it. We use more than twelve pails of water daily and most of that has to be carried out again as waste.

"Our house, as all the better class of homes, is built of logs which have been closely fitted together.

Taking a Bath

"The fourth room of our house is just a wash-room and store-room. We started to call it a bath-room but most of our baths are taken beside the kitchen stove in a wash tub. The tubs are long and narrow (about a

yard long and eighteen inches wide). I am not sure about the width but we both just fit. They are very shallow and hold only a little more than a bucketful of water and when we sit down we splash about half of that out, so you can imagine what kind of baths we have."

THE AUTO LINE



Now, Mamma, Will You Be Good?

There was a fearful crash as the train struck the car. A few seconds later, Mr. and Mrs. Pickens crawled out of the wreckage. Mrs. Pickens opened her mouth to say something, but her husband stopped her:

"Never mind talking," he snapped; "I got my end of the car across. You were driving the back seat and if you let it get hit it's no fault of mine!"—Portland, Oreg., Spotlight.

A Motorist's Prayer

"Teach us to drive through life without skidding into other people's business. Preserve our brake linings that we may stop before we go too far. Help us to hear the knocks in our own motors and close our ears to the clashing of other people's gears. Keep alcohol in our radiators and out of our stomachs. Absolve us from the mania of trying to pass the other automobile on a narrow road. Open our eyes to the traffic signs and keep our feet on the brakes."—Outlook.

She Knew

Mrs. Bloop—Does your car have a worm drive?

Mrs. Bleep—Yes, but I tell him where to drive.

Good Eyesight

Dora—How could you fall in love with Jack before meeting him? Did you see his photo?

Flora—No, I saw his auto.

Don't Be Too Honest

An honest speeder had just hit a dog, and had returned to settle his damages, if possible. He looked at the dog a moment, and addressed the man with a gun:

"Looks as if I'd killed yer dog?"

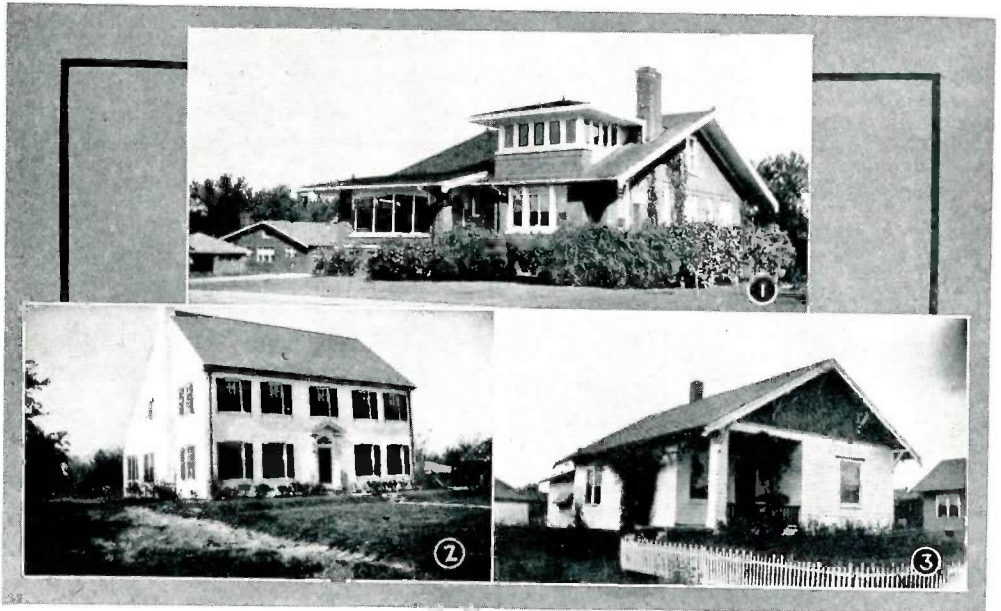
"Certainly looks that way."

"Very valuable dog?"

"Not very."

"Will five dollars be enough?"

The Camera Club



The subject for December was "Homes" and prizes were awarded as follows:

1st prize—O. C. Keil for his picture of his home.

2nd prize—Marian Richards.

3rd prize—Ollie Springer for picture of her home.

Pictures were judged by Mr. T. C. Kingston of Chicago. The subject for January will be "Interiors."

The Club will hold its annual election in January at which time a new president, vice-president, and secretary will be elected. Subjects will also be selected for the coming year.

"Well—I guess so."

"Sorry to have broken up your hunt," said the motorist, pleasantly, as he handed the owner a crisp five-dollar bill.

"I wasn't going hunting—just going out in the woods to shoot the dog."—Tawney Kat.

And Where?

"Jenkins is wrapped up in his auto."

"Indeed? When did the accident occur?"

But She Always Wins

Heliotrope—Traffic policemen are so obstinate!

Penelope—In what way?

Heliotrope—It's the hardest thing in the world to make them admit I'm right when they know I'm wrong.

Be Considerate of Gas

Out in New Mexico, even public signs come directly to the point. In a garage, in Albuquerque, is posted the following notice: "Don't smoke around the tank. If your life isn't worth anything, gasoline is!"

Distance Determines Damns

"Papa, what do you call a man who drives a car?"

"It depends on how close he comes to me."

The Quickest Way

Jaywalker—Say, Officer, can you tell me the quickest way to the hospital?

Cop—Sure. Just stand where you are.

Breaking Out

"What's the lump on the front of your car?"

"Oh, the radiator just had a boil."

"Nice Boy, But—"

She was parked in front of a fire hydrant for two hours. A cop was waiting for her.

Cop—I've waited for you for hours. What's your name?

She—It wouldn't do you any good if I told you. You look like a nice boy—but my husband is about twice your size and very jealous.—The Right Way.

Traffic Jam

"Is your daughter popular?"

"Popular! Why, I can't park within three blocks of my house."—Iowa Frivol.

STARTED AS A BANK

Some Ancient History Regarding Beginning of New York Water Works.

Can you imagine the time when New York City with its tremendous aqueducts, its high powered pumps and its thousands of miles of water mains supplying potable water to millions of thirsty mouths was dependent upon a few public wells for its daily supply?

The water works industry has been one of slow development until recent years. Now towns as small as 600 or 800 have some sort of a central pumping station.

Owes It To a Bank

Greater New York, however, was an important city of 22,000 before it was supplied with water by anything approximating a public utility.

And this was brought about through the desire of Alexander Hamilton, Aaron Burr, and other noted men of their time to obtain a bank charter, which they did by asking for and obtaining a charter to supply residents of New York with water. They received this charter but it had a joker in it which enabled them to begin a banking business.

That New York City's water works was the outgrowth of the Manhattan Company, now known as the Bank of Manhattan Trust Company, has been previously mentioned in The Mueller Record. The history of this rather peculiar evolution in metropolitan water works was given at some length in a recent issue of Water Works Engineering.

History Preserved in Paintings

The walls of this great bank now occupying a new building are illuminated by beautiful mural paintings depicting the early history of the dual bank and water works. These paintings are the work of Ezra Winter, a distinguished artist.

Used Wells First

New York City's battle for a water supply dates back to 1688 when the town council ordered the digging of a public well on Broadway. Later several more of these wells were ordered. These had to be provided by residents of various streets. The old burgo-masters countenanced no monkey business. Their order was that these wells be sunk with all possible speed or said residence "will answer contrary at their peril." In time the wells became polluted and a menace to health. Water became so needed that ships brought it in hogsheads and sold it.

In 1774 New York had a population of 22,000 and was sore pressed for good water. Christopher Colles, a civil engineer, proposed to the burghers that a water works be built to relieve the situation. The building of a large reservoir into which water could be pumped and distributed through wooden mains along the principal streets was accomplished. This plan was carried out at a cost of 11,400 pounds. After the Revolutionary war the water question again bobbed up.

Burr Gets Credit

To Aaron Burr is attributed the scheme of securing a bank charter through the plausible theory of establishing a private water company. An enabling act was secured from the legislature for the Manhattan Company with a capital stock not to exceed \$2,000,000. The shares were fifty dollars each and the city was allowed to buy two thousand shares. The company agreed to furnish water within ten years at terms to be agreed upon.

The Joker

The joker was in the eighth clause of the charter. It permitted the Manhattan Company to use any surplus capital in the purchase of public or other stock or in any other monied transactions or operations.

With this authority a powerful bank was established and only enough effort directed to water works to maintain the charter. Instead of drawing a supply of water from the Bronx river as they were expected to do the company sunk a well 25 feet in diameter at Reade and Center Streets, pumped the water to a reservoir on Chambers Street and from that point distributed it through wooden mains.

After thirty years of inadequate service the city induced the Manhattan company to turn over its water charter to the municipality which was done in 1807.

Since then the growth of New York's water supply system developed to the point where it now is one, at least, of the outstanding systems of all time.

Might Have Been Better Than Bank

One may easily dream out the untold millions of wealth accruing to the Manhattan Company had they retained their water charter to the present day.

And again when one visualizes the tremendous scope of the present New York water system there is ample reason for wonder what has been accomplished since 1807—a little more than a century.

It is quite fitting that this great Manhattan bank should embellish its walls with historic paintings of this unusual and fascinating history of old New York.

Ancient Alabaster Mine

There is an alabaster mine in Italy that has been worked continuously since it was opened up by the Etruscans more than 2,000 years ago.

Found A Gold Nugget

A nugget weighing about 118 pennyweight and worth \$118 was found by a woman on the desert east of Barstow, Cal.

We'd Prefer a Match

In Turkestan, a wife can be bought for as little as a box of matches.

Milk contains an average of 87½ percent water.

Gas and Its Uses

Natural gas advances steadily as a fuel. One is led to wonder what the result will be and what it is going to be on the coal industry. Wherever the natural fuel is piped there is a demand awaiting it. Its smokeless, ashless, dustless properties at once commend it as the ideal fuel. Its adaptation to furnaces and boilers already installed is another very strong selling point. The City of Denver furnishes a striking illustration of what natural gas may do to other established fuels. Two years ago in anticipation of the advent of natural gas the Public Service Company of Colorado began a campaign for popularizing this fuel. At that time not over 400 residences were heated by gas. In two years time the number has increased to 8000. This is about one-sixth of total homes in Denver, exclusive of apartment houses. This tremendous change from other fuels to natural gas has been accomplished despite the fact that natural gas heat is 35 per cent higher than coal. It is expected that within the next few years the majority of Denver homes will be heated with natural gas.

Association meetings are scheduled as follows:

New England Gas Association, Hotel Statler, Boston, Feb. 3-5.

Missouri Association of Public Utilities, Excelsior Springs, Mo., April 16-18.

Pennsylvania Gas Association, Wernerville, Pa., April 28-30.

Canadian Gas Association, Montreal, Quebec, June 4-5.

National Electric Light Association, Atlantic City, June 8-12.

Southern Gas Association, Chattanooga, Tenn., June 9-11.

National Gas Association, Atlantic City, October 12-16.

The total investment in natural gas securities as given by Natural Gas, the official organ is \$450,000,000. Up until seven years ago this stock had only a limited number of followers. The development of this branch of the gas industry has been remarkable. The same authority quoted says the investment in natural gas pipe lines is now \$2,250,000,000. The time seems to have passed where doubts were entertained as to the permanency of natural gas.

New natural gas pipe lines will reach out from the 30,000,000 cubic foot well, Garena dome, 26 miles northwest of Grand Junction. This city and Freuta are already being supplied and Palisade, Delta, Olathe, and Montrose are to be taken care of.

During the month of October 245 gas wells in the United States were completed, an increase of 37 over the same month in 1929.

At the last meeting of the American Gas Association, E. B. Swanson, economic analyst of the Bureau of Mines, Washington, D. C., spoke of the almost incalculable reserves of natural gas in the Kansas, Oklahoma, and Texas Panhandle fields. Millions and billions no longer serve to express the possibilities. The indications are for a development of a supply of 16 or 17 trillion cubic feet. Einstein and some of his followers may comprehend this but the average mind does not generally concern itself with anything so vast. One gets an inkling of what this all means when told that such a gas reserve as 17 trillions would supply the longer pipe lines now under construction at the rate of 1,250,000,000 cubic feet daily for 37 years.

Natural gas has been an industry of slow development, but it's off with a bang now.

At the present time helium is a product of the United States only, but it may have competition. News comes from Belgian Congo that helium has been found there and the quantity may be such as to offer competition to America.

Feet means nothing in big gas pipes now. The Texas Construction Co. has placed an order for 150 miles to be used in the extension of natural gas lines.

Queen Anne's Many Children

Queen Anne, who reigned over England from 1702 to 1714, gave birth to seventeen children, not one of whom survived her.

First Omnibus

The world's first omnibus appeared in France, in the city of Nantes, about 104 years ago.



Prominent Iowa Water Works men who attended the convention of the Missouri Valley District meeting of the American Water Works Association at Cedar Rapids. Reading left to right: City Manager Roger Evans, Dubuque; City Commissioner M. B. Andlinger, Dubuque; J. C. McEvoy, superintendent W. W., Dubuque; Thomas Haley, superintendent W. Works, Davenport; Edw. Weichelman, Meter Dept., Davenport; Wm. Molis, superintendent W. W., Muscatine.

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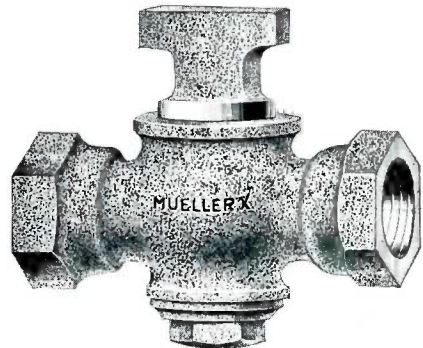
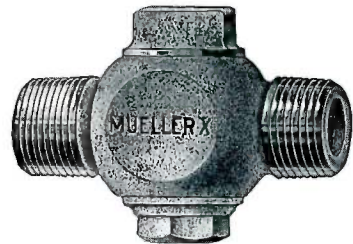
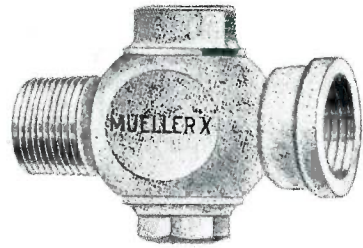
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