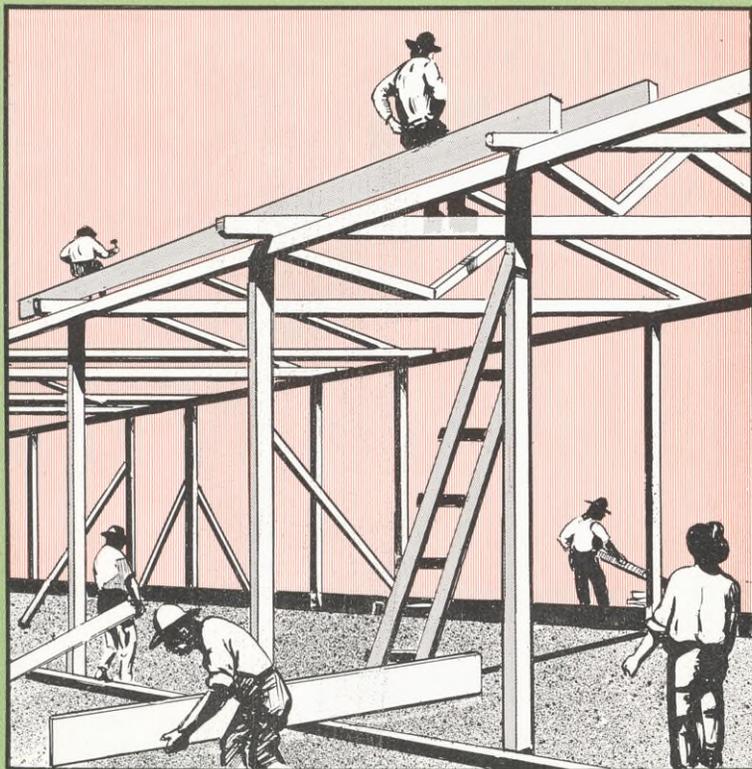


# TEXACO STAR



EQUIPMENT AND CONSTRUCTION DIVISION  
OF THE SALES DEPARTMENT  
SOUTHERN TERRITORY

EQUIPMENT AND CONSTRUCTION  
DIVISION of SALES DEPARTMENT  
SOUTHERN TERRITORY

STAFF

HOUSTON, TEXAS

J. C. McCULLOUGH, Superintendent

S. B. FLOETER, Chief Clerk

YATES A. LAND, Stenographer

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IF all the letters, messages, and speeches of Lincoln were destroyed, except that one letter to Hooker, we still would have an index to the heart . . . see that Lincoln ruled his own spirit and behold the fact that he could rule others.

Hooker had harshly and unjustly criticised Lincoln, his commander in chief. But Lincoln waives all this in deference to the virtues he believes Hooker possesses, and promotes him to succeed Burnside. . . . Yet it was necessary that the man promoted should know the truth, and Lincoln told it to him in a way that did not humiliate nor fire to foolish anger, but which surely prevented the attack of cerebral elephantiasis to which Hooker was liable.

Washington, January 26, 1863.

Major-General Hooker:

Dear General:—I have placed you at the head of the Army of the Potomac. I have done this upon what appear to me to be sufficient reasons, and yet I think it best for you to know that there are some things in regard to which I am not quite satisfied with you.

I believe you to be a brave and skillful soldier, which, of course, I like. I also believe you do not mix politics with your position, in which you are right.

You have confidence in yourself, which is a valuable if not an indispensable quality.

You are ambitious, which, within reasonable bounds, does good rather than harm; but I think that during General Burnside's command of the army you have taken counsel of your ambition and thwarted him as much as you could, in which you did a great wrong to the country, and to a most meritorious and honorable brother officer.

I have heard, in such a way as to believe it, of your recently saying that both the army and the government needed a dictator. Of course, it was not for this, but in spite of it, that I have given you the command. Only those generals who gain successes can set up dictators. What I now ask of you is military success, and I will risk the dictatorship. The government will support you to the utmost of its ability, which is neither more nor less than it has done for all commanders.

I much fear that the spirit you have aided to infuse into the army, of criticising their commander and withholding confidence from him, will now turn upon you. I shall assist you as far as I can to put it down. Neither you nor Napoleon, if he were alive again, could get any good out of an army while such a spirit prevails in it. And now beware of rashness, but with sleepless vigilance go forward and give us victories.

Your very truly,

A. Lincoln.

One point in this letter is especially worth our consideration. That is the habit of carping, sneering, grumbling at, and criticising those who are above us. . . . Lincoln did not resent criticism; but look how he calls Hooker's attention to the fact that the dissension Hooker has sown is going to return and plague him: "Neither you, nor Napoleon, if he were alive, could get any good out of an army while such a spirit prevails in it." Hooker's fault falls on Hooker—others suffer, but Hooker suffers most of all.

If the concern where you are employed is all wrong, and the Old Man is a curmudgeon, it may be well for you to go to him and quietly and kindly tell him that his policy is absurd and preposterous. Then show him how to reform his ways. Do this, or if for any reason you should prefer not, then get out.

If you work for a man, in heaven's name work for him. If he pays you wages that supply you your bread and butter, work for him—speak well of him, think well of him, stand by him, and stand by the institution that he represents.

If you must condemn and disparage, resign your position, and then, when you are outside, damn to your heart's content. But as long as you are a part of an institution, do not condemn it. Not that you will injure the institution—not that—but when you disparage a concern of which you are a part, you disparage yourself. More than that, you are loosening the tendrils that hold you to the institution and the first high wind that happens along, you will be uprooted and blown away, and probably you will never know why.

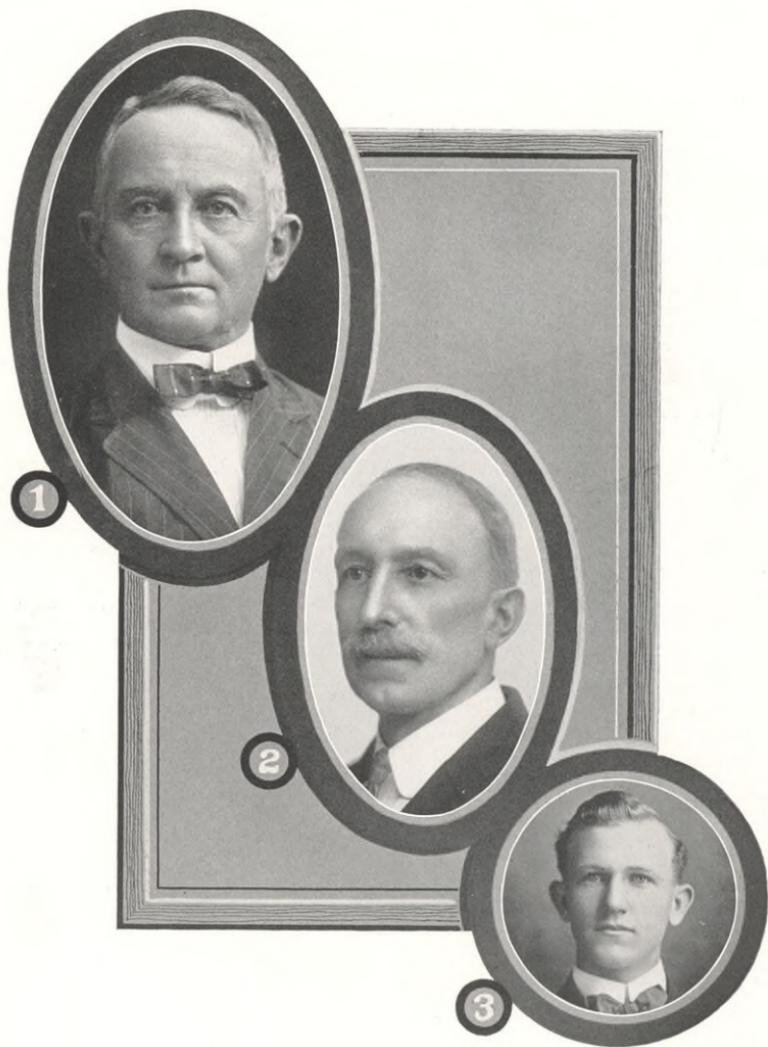
—Elbert Hubbard.

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EQUIPMENT AND CONSTRUCTION DIVISION STAFF  
SALES DEPARTMENT, SOUTHERN TERRITORY



Houston, Texas: 1. J. C. McCullough, Superintendent.  
2. S. B. Floeter, Chief Clerk. 3. Yates A. Land, Stenographer.

# TEXACO STAR

VOL. II

JUNE 1915

No. 8

PRINTED MONTHLY FOR DISTRIBUTION TO EMPLOYEES OF  
THE TEXAS COMPANY  
"ALL FOR EACH—EACH FOR ALL"

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ADDRESS: TEXACO STAR, 523 THE TEXAS COMPANY BUILDING, HOUSTON, TEXAS

JUST one year ago—in the issue for June 1914—we showed the architect's drawing picturing the home office building of The Texas Company that was to be constructed, and described its salient architectural features and some of the designed arrangements for utility and comfort. Each succeeding month we have shown photographs of the structure as it rose under the hands of its builders. Last month closed the series; instead of a report of progress beneath the picture, we could proudly inscribe: *The Texas Company "At Home," May 1, 1915.* The subject merits more extended comment, and additional views of this thoroughly practical yet beautiful building will be of interest to all.

The building faces south and east at the crossing of San Jacinto Street and Rusk Avenue. For those not familiar with Houston, it may be explained that this location is two squares south and two squares east of the Rice Hotel on Main Street and Texas Avenue, which may be regarded as the city's central crossing. Directly opposite our building, on San Jacinto Street, is the Houston Post Office in the new Federal Building. The frontage of The Texas Company Building on Rusk Avenue is 132 feet, on San Jacinto Street 102 feet.

It is a steel-frame building of thirteen stories, with a basement below the entire floor area and extending under the sidewalks, which are about 12 feet in width. One corner of the basement was excavated to a depth of 22 feet to make a sub-basement to contain the boilers and the mechanical equipment, except the elevator motors which are in a pent house on the roof. The building is faced with limestone and terra

cotta. All the way up and across at regular intervals the monogram of The Texas Company is delicately carved, the ornamental effect being that of fine tracery. The sidewalks are covered by a massive arcade with limestone columns and Gustavino arches. The curb and the bases for the columns are of Texas granite.

All work on the building progressed with remarkable dispatch. In this respect, as well as in the thorough excellence of workmanship, its erection was a triumph for the contractors. The excavation was begun on June 8, 1914. Spread footings to carry the steel columns were put 27 feet below the surface in order to get a perfectly secure foundation. The structural steel was fabricated by the Houston Structural Steel Company. The first piece of steel was erected August 5, and the entire steel structure was completed October 28. A total of 1,400 tons of structural steel was used. The placing of the forms for the concrete fireproofing was begun September 2, and all concrete fireproofing was finished November 18. The setting of the Bedford limestone and laying of common and face brick was commenced October 7, and completed, except the brick work of the arcade, November 18. The terra-cotta colonnade which begins at the 11th floor level was started November 18, and completed December 19. The interior partitions of hollow tile were started December 19, and finished in ten days. The plastering from the 3rd to the 13th floor was done within seven weeks. The marble work was begun January 1, and finished throughout the building May 1. The mill-work, begun March 1, was completed May 1. Of common brick 1,100,000

TEXACO STAR



General Offices of The Texas Company, Houston, Texas

TEXACO STAR



Arcade on Rusk Avenue Front

## TEXACO STAR



E. H. Catlin, Supervising Engineer for  
The Texas Company



F. E. Warren, Supervising Engineer for the  
Contractors

were used, of face brick 150,000; of Bedford limestone 15,000 cubic feet; of ornamental terra-cotta 17 carloads; of Italian Rosata marble 45,000 surface feet. This marble was bought in New York after the outbreak of war, and only sufficient for this building was obtainable.

The power plant in the building consists of two 150 H. P. Heine boilers, burning fuel oil. At present these are used only for heating, but their capacity is sufficient for electric generators if it ever becomes desirable to install them.

The water in the building is supplied from an artesian well, 1,400 feet deep, located in the basement. The water is forced from the well to the surge tank, whence it is forced by two three-stage Worthington centrifugal pumps to the service tank, capacity 12,000 gallons, in the pent house on the roof. These pumps have automatic control, operated from the service tank. The drinking water on every floor is cooled by a 6-ton refrigerating plant, furnished by Vilters Manufacturing Company.

There are three Otis Elevator Co. elevators, one-to-one direct traction machines, each having capacity of 3,000 pounds operating on a 500 volt direct current.

There are two Ingersoll-Rand air compressors, each designed for 136 cubic feet of free air compressed to 60 pounds normal working pressure. The compressors are short-belt, motor-driven units; they are controlled by automatic self-starters, which are in turn controlled by pressure regulators in the air reservoir. Each air compressor is driven by a three-phase, 60 cycle, 236 volt, alternating current, slip ring motor. The compressed air is used to operate a pump forcing fuel oil to the boilers; to lift the water in the deep well to the surge tank; and to operate a Lamson-Miles tube system for distributing messages throughout the building. A station of the tube system is on every floor; on each floor, the mail, collected by a boy, is sent through that station to the central station on the 13th floor, whence it is delivered to the station on the floor to which it is addressed, where it is again taken by a boy to the person addressed.

The building is cleaned with a four-sweeper Tuec vacuum cleaning machine.

The clocks throughout the building are regulated by a master clock with Western Union time.

The building is equipped throughout with an indirect lighting system. Outside

TEXACO STAR



At Night

## TEXACO STAR

at the 11th floor, along the base of the colonnade, reflectors have been installed which flood with light the face of the three upper stories. This is said to be the only building outside of New York City illuminated in this manner. The effect is this case is very beautiful. The light is strong at the base of the columns, gradually fading toward the lattice work before the windows of the 13th story and the deep cornice at the top. A soft brilliancy pours over deep carvings and delicate traceries of the white surface. The photograph gives but a poor idea of the charming effect.

The woodwork throughout the building is of select white oak, except on the 12th floor where it is mahogany, treated with acid and oil instead of being varnished.

Warren and Wetmore were the architects, and Geo. A. Fuller Contracting Company the general contractors.

The Texas Company occupies all floors above the third. The third floor is finished for typical offices, as it is intended to accommodate expansion of the Company. The first and second floors are to be rented more permanently. Each Department of the Company has space in the basement for storage of old records, and the Stationery Storage Rooms are in the basement. Above the third floor the offices are distributed as follows:

- 4th Floor: Houston District Office, Sales Dep't
- 5th Floor: Purchasing Department; Texaco Star; Producers Oil Company.
- 6th Floor: Producers Oil Company.
- 7th Floor: Pipe Line Department.
- 8th Floor: Sales Dep't, Southern Territory.
- 9th Floor: Refining Department.
- 10th Floor: Treasury Department; Comptroller's Department; Fuel Oil Department.
- 11th Floor: Legal Department; Engineering.
- 12th Floor: Executive Offices.
- 13th Floor: Telegraph Division; Telephone Exchange; Mailing Room; Laboratories.



General Office, Beaumont, Texas, 1902

Page eight



This emblematic report, an inspiration of Mr. C. Baylor Hull's loyal genius, is better than any written account of the annual Texaco Day outing at Sylvan Beach which was described in advance in last month's issue. One detail, however, should be stated, to-wit: The Port Arthur Works base ball team won the 1915 pennant by defeating the team of the Houston Offices with a score of 12 to 4.

★ ★

President E. C. Lufkin of The Texas Company is one of the business men invited by the Secretary of the Treasury to attend the Pan-American conference, which opened in Washington on May 24, for the purpose of establishing improved trade and financial relations between this country and the countries of Central and South America.

★ ★

Mr. Harry Tipper, Manager of the Advertising Division of The Texas Company, in his recent presidential address at the convention of the Association of National Advertisers, said:

"While I look forward, in common with other business men, to increased improvement, I do not believe it will ever be possible to return to careless methods of marketing goods."

## TEXACO STAR

### THE MAN WHO WINS

The man who wins is an average man,  
Not built on any peculiar plan,  
Not blest with any peculiar luck,  
Just steady and earnest and full of pluck.

When asked a question he does not "guess"—  
He knows, and answers "no" or "yes;"  
When set a task that the rest can't do,  
He buckles down till he's put it through.

Three things he's learned: that the man who tries  
Finds favor in his employer's eyes;  
That it pays to know more than one thing well;  
That it doesn't pay all he knows to tell.

So he works and waits, till one fine day  
There's a better job with bigger pay;  
And the men who shirked whenever they could  
Are bossed by the man whose work made good.

For the man who wins is the man who works,  
Who neither labor nor trouble shirks,  
Who uses his hands, his head, his eyes:  
The man who wins is the man who tries.

—Charles R. Barrett.

The Partial Payment method of buying good securities is already putting a great many persons in the only way of making the right economic start in life. No man starts right until he systematically saves some part, however small, of his income. If possible, the minimum should be put by



Elizabeth Boyd Kneale, born Nov. 23, 1914, daughter of Mr. and Mrs. A. D. Kneale, Tulsa, Okla.—Oklahoma Division, Pipe Line Department.

### THE MAN WHO FAILS

The man who fails is the sort of a chap  
Who is always looking around for a snap;  
Who neglects his work to regard the clock;  
Who never misses a chance to sneeze.

He is grouchy and slow when work begins;  
When it's time to quit, he jokes and grins;  
He's always as busy as busy can be,  
When he thinks the boss is around to see.

He believes that a "pull" is the only way  
By which he can ever draw bigger pay;  
And he sulks and growls when he sees his plan  
Upset by the "push" of another man.

He's on the job when he draws his pay;  
That done, he soldiers his time away,  
While the men who tackle their jobs with vim  
Keep pushing and climbing ahead of him.

For the man who fails has himself to blame,  
If he wastes his chances and misses his aim;  
He'd win if he'd use his hands and wits:  
The man who fails is the man who quits.

—Charles R. Barrett.

at regular intervals—for instance, out of the week's wages, or the month's salary.

★ ★

A just fortune awaits the deserving.  
—Statius.

Happiness is absorption in some effective form of work.—Bourke Cochran.

Happiness flies before its pursuers.

A smile can glorify a whole day.

If you think a thing is right, never mind what the many say—stick to it.

"Come, let us save the kiddies!"—Alfred Gwynne Vanderbilt.



Texaco, 8 months old, son of Mr. and Mrs. D. K. Wyatt, —Agent, Ault, Okla.

## TEXACO STAR



Stuck in the Snow Banks in Denver



Resting in the Shade of the Palms in Jacksonville



Jacksonville, Florida Station

## TEXACO STAR



Laredo, Texas Station—The Texas Company's Station No. 1, being the first station opened in the Sales Department

### EQUIPMENT AND CONSTRUCTION OF SALES STATIONS

J. C. McCULLOUGH

Superintendent of Equipment and Construction Division, Sales Department, Southern Territory.

Any effort to go into details, or scientific discussion, as to how to build a Sales Station in the Southern Territory would be little less than a bore to the casual reader of the *Star*, and of no value to the seeker after knowledge. Architectural extremes are never involved, nor the mysteries of the fourth dimension invoked. The most essential requirements in this department are common sense and speed,—the former to be of service in the selection and assembling of materials, and the latter in arranging the jumbled mass into convenient buildings conveniently placed within the shortest possible time consistent with good workmanship.

The climate of the Southern Territory includes every variety from Denver to the Rio Grande. We may be "Stuck in the Snow Banks in Denver," or "Resting in the Shade of the Palms at Jacksonville," and our construction, however simple it may be, is as varied as the climate. Our buildings are, and should always be, of the best material, including concrete foundations and Texaco Roofing; for the Northern part warm, comfortable, substantial structures; in the Southern, cool, comfortable, and substantial as well.

The arrangement and relative position of the buildings and tanks composing the Sales Stations should always receive careful consideration, in order to reduce to the minimum the fire risk and danger. On this point we can state with considerable satisfaction that, during the entire history of The Texas Company, the Southern Territory with its three hundred stations, consisting of 470 storage tanks and 220 store houses and an equal number of stables, wagon sheds, and other buildings, not one tank has been seriously damaged by fire, and but six storehouses, one stable, and one wagon shed have been burned; nor have any tanks or buildings been destroyed or damaged by wind or lightning. We believe this showing will stand in front of any comparative list of losses by fire, wherein equal investments or number of structures are involved, of any class or character whatsoever.

The Equipment and Maintenance branch of this Division commands much more of my sympathy and attention than any other. The iron barrels, pumps, engines, motor trucks, wagons, and harness all come in for their share of attention; but the real thing is that "stubborn, steadfast mule."

## TEXACO STAR

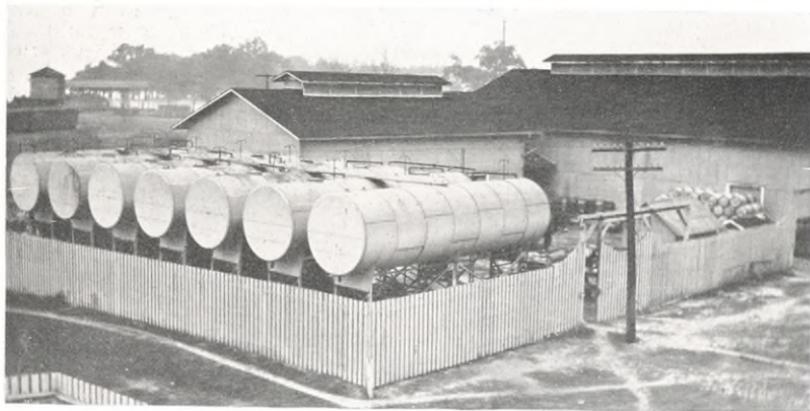


Atlanta Station—from Office window

The only really reliable motor power for the Sales Stations in the Southern Territory, is the sound, southern-bred, thirteen-hundred pound, six-year old, "hard tailed" mule. He's your friend if you'll only believe in him, and will always deliver the goods if you treat him fairly, squarely, and respectfully. Re-enforce him with the best of hay and oats and plenty of cool pure water, and laundry his collar every night; furnish him with a dust pile to roll in after supper, and a bath and rub-down in the morning, then he's your friend "sure nuff" and his loyalty beyond suspicion, and you will never have to tow him in with the motor truck. Under these con-

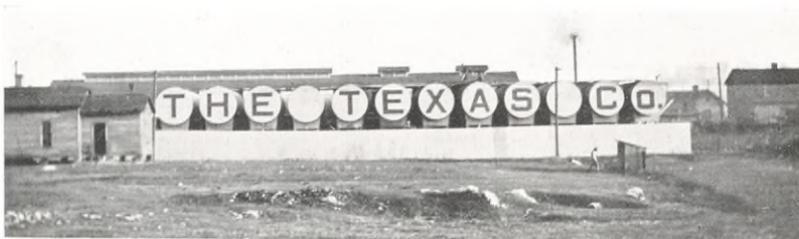
ditions he will serve you ten years. He should be pensioned or chloroformed when the infirmities of age appear.

The shoeing of the mule should be carefully watched, and the work done by a skillful blacksmith who will never pare the frog of the foot or trim away any more of the hoof than is absolutely necessary to give substantial nailing surface for the shoe, leaving the hoof each time equally as large and, if possible, larger than at the time of previous shoeing. In this manner develop and enlarge the hoof instead of, as is often the case, reducing the size with each operation until the animal is permanently crippled and absolutely ruined.



Mobile Station

## TEXACO STAR



Birmingham, Alabama Station

The shoes should never have heels higher than the toe, for if the foot is thrown out of the level bearing for which nature arranged the tendons and muscles, they are bound to become strained, resulting in stiffness and soreness, which, if continued, will soon result in complete breakdown.

The most unpardonable sin the driver can commit, or the agent permit, is to allow one of his mules to develop ulcerated shoulders—much less to drive him after the development, and any list agent should be placed on the xxx list and banished to the sand hills of Georgia with his pockets full of ants.

It is scarcely necessary to state that the person who permits his mules, harness, wagons, pumps, engines, barrels, fences,

buildings, or premises to be neglected is not representative of The Texas Company. The agent should bear in mind that efficiency consists, not alone in reducing the marketing expense and increasing the gallonage, but equally as much in maintaining in first class condition, at all times, the equipment and premises in his charge, and that for ready reference his efficiency is much more apparent in the physical condition of these things.

As recommendations and suggestions are not only permissible but acceptable at this time I have two to offer:

First, that all of our wagons, trucks, and runabouts be painted a fiery red with lettering in white enamel, in order that we may be seen in public. Our present color,

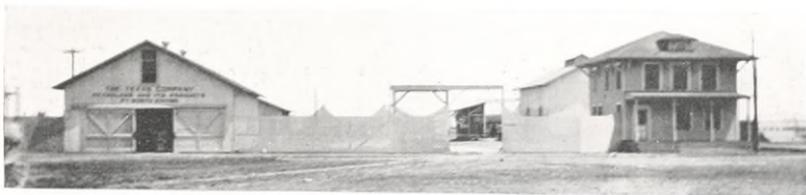


Birmingham Station—Filling Shed

## TEXACO STAR



New Orleans Sales Station



Fort Worth, Texas Station



Oklahoma City Filling Station

## TEXACO STAR

the Battleship Gray, acknowledges by its name that we do not want to be observed any more than Uncle Samuel wanted his ships to be sighted at sea, when for purposes of obscurity he adopted this selfsame color.

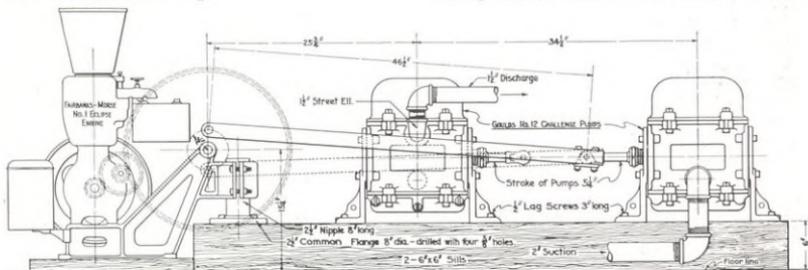
Second, that all of our storage tanks be hooded or covered with sun-shielding buildings. These can be of attractive design and cheaply constructed, and would eliminate largely, if not entirely, the ever present mysterious shortage in gasoline and kerosene, and under actual testing will compensate the outlay in two years' time.

All of us should join the Dollar Club. Every savings bank is a meeting place for this Club, and the benefits of membership are particularly evident on a "rainy day." In other words saving is *having*. Save today and you'll have tomorrow. Dimes breed quarters, quarters halves, and halves dollars. When the saving man's reverses come he is prepared, for he has gotten the *having* habit.—A "Payday Pencilgram" of Detroit Steel Products Co.

Those self-controlling persons who do not spend until they possess the means of paying, are the only ones who are on a safe and solid footing.



Filling Station, Main Street, Houston, Texas



Fairbanks-Morse No. 1 Eclipse Gas Engine (1 H. P.), coupled to two No. 12 Goulds Challenge Pumps

Letters and clippings from New York papers have brought us various reports of the last episodes in the life of Ursa, the bear mascot of U. S. S. Texas. Space is lacking for the graphic details. Ursa imitated every move of the men—with original additions such as chewing up uniforms and boxes of cigars—and it was feared she might some day try to fire a big gun. She was wrested from her sailor

friends and returned, with regrets, to The Texas Company at our Norfolk Terminal. Two sailors had gone to hospital as a result of crating Ursa to get her off the ship. Excitement attending a second crating to deliver her to the Zoo in the Norfolk City Park proved too much for her nervous system, and she rolled over dead when a tire blew out on the automobile that was carrying her to the Park.

## TEXACO STAR

### COMPARATIVE TEST ON SNOW GAS ENGINE AND COMPRESSOR AT A LARGE GAS COMPANY'S PLANT IN TEXAS

The engine was a standard Snow Horizontal Single Tandem Double Acting Gas Engine with gas compressor cylinders directly connected. The power cylinders were 24" in diameter by 48" stroke. This station contained three double 1250 H. P. and two single 625 H. P. Snow engines of the same type. Lubrication was through Richardson-Phoenix Lubricators, 1½ gallon size connected with the cylinder and stuffing boxes on the power cylinders, and 1 gallon size for the gas compressor cylinders—this lubricator supplying the stuffing box and cylinders on the compressor side. The test covered 1,172½ hours of operation. The following are the general details.

It was decided by the plant management that a careful comparative test should be made between a competitive oil and Texaco Ursa Oil. For this purpose two of the engines were selected, standing side-by-side and for all practical purposes identical. They had both been lubricated with a competitive oil for sometime previous to the test. The test started at 5:45 P. M. January 6 and was concluded at 10:45 P. M. February 27, 1915.

A representative of the competitive oil company watched the performance of the competitive oil, and an engineer from The Texas Company watched the performance of Texaco Ursa Oil; the resident engineer overlooked the entire test. Both engines were carefully calibrated from January 1 to January 4 and were at that time made ready for test. The calibration and examination of the engines were made with the utmost care, the following observations being made on each engine:

The cylinders were calibrated vertically and horizontally, all readings being checked.

Pistons and piston rings were examined and a record kept of their condition.

Piston rods were carefully examined, the packing cages being taken out of the stuffing boxes, examined, and thoroughly cleaned.

After a complete examination, the cylinder bores were then cleaned of all deposits and made ready for test. Engine No. 1 was selected for Texaco Ursa Oil and Engine No. 2 for the competitive oil. On Jan. 6 a barrel of competitive gas engine oil and a barrel of Texaco Ursa Oil were delivered to the oil house, a gallon measure being used for filling the lubricators. Both engines were started the afternoon of Jan. 6. Lubrication was carefully adjusted to all points on each engine.

On Jan. 14, after continuous run, Engine No. 1, running on Texaco Ursa Oil, was shut down and the cylinder heads were taken out, and on Jan. 15 a careful examination was made by the Chief Engineer in the presence of The Texas Company's engineer. A heavy film of oil was found on the cylinder walls. The packing cages on the stuffing box of No. 1 cylinder were taken down and found to be absolutely free from carbon and all parts covered with an abundance of oil. The piston rods showed a nice polish with all indications of being abundantly lubricated. In shutting this engine down, it was noted that it did not stop suddenly but rocked back and forth several times before stopping. After the engine was made ready to start, the feed to the cylinders and stuffing boxes was reduced.

Engine No. 2, using the competitive gas engine oil, was shut down the afternoon of Jan. 15 and an examination was made the same as with the other machine. In shutting this engine down, it stopped suddenly on the center, indicating considerable lack of lubrication. During the run up to this time the valves had shown a tendency to stick and there had been some back-firing, a sure indication of carbon formation. Cylinder heads 1 and 3 were taken off and allowed to cool, and an examination showed, if anything, a lack of oil. The stuffing box was examined, and the packing cage was taken out and found to be solid with carbon and a dark gummy substance. The packing was thoroughly cleaned, re-assembled, and made ready for operation. The rods on Engine No. 2 showed black streaks which is taken to be an indication of inactive packing rings due to carbon formation or lack of proper lubrication. The Chief Engineer of the plant took a sample of the carbon and deposit found in the stuffing box. Examination of this deposit will be referred to later.

At this time all of the evidence was in favor of Engine No. 1, lubricated with Texaco Ursa Oil, being in much better condition than the engine lubricated with competitive oil.

On Jan. 28 both engines were inspected while running; only a general inspection was possible at this time.

On Feb. 1 the performance had been:

Engine No. 1 operated 553.2 hours; used 77⅞ gallons Texaco Ursa Oil.

Engine No. 2 operated 549 hours, used 81½ gallons competitive oil.

On Feb. 27 the test was concluded, a final examination being made by the representative of the plant, representative of the competitive oil company, and the representative of The Texas Company.

The exterior of stuffing boxes on Engine No. 1, which had operated with Texaco Ursa Oil, were examined before shutting down and found to be clean. The rods were clean, bright, and free from any dark oil or deposit. The packing was found to be tight, there being no blowing by the rings.

Engine No. 2, which had operated with the competitive oil, was examined in exactly the same manner. The stuffing boxes showed a dark gummy substance running out from under the rod and down over the cylinder head. The rods were streaked and the packing was blown considerably.

## TEXACO STAR

A detailed examination was made of all of the cylinders of both engines with the general results:

	Engine No. 1 Texaco Ursa Oil	Engine No. 2 Competitive Oil		Engine No. 1 Texaco Ursa Oil	Engine No. 2 Competitive Oil
Cylinder No. 1			Cylinder No. 3		
Lubrication	Sufficient	Insufficient	Lubrication	Insufficient	Insufficient
Carbon	None	Indication	Carbon	None	Slight
Wear	None	Slight	Polish	Good	Good
Tool Marks	Visible entire upper half	Visible entire upper half	Cylinder No. 4		
Heads	No carbon	Carbon at base of piston	Lubrication	Fine	Insufficient
			Carbon	None	Indication
Cylinder No. 2			The stuffing boxes were examined in great detail: On Engine No. 1, lubricated with Texaco Ursa Oil, the exterior of the cages was found to be free from carbon, and very little, if any, carbon was found in the interior of the cages or in the recesses between the rings. The different parts of the cages had the appearance of being well lubricated. The rods in every case were in good condition. On Engine No. 2, lubricated with the competitive oil, the stuffing boxes all showed carbonized oil in the exterior. The lubrication seemed to be insufficient and a considerable amount of carbon was found between the rings and in the recesses. The rods were all in good condition. The calibrations before and after the test were:		
Lubrication	Ample	Insufficient			
Tool Marks	Visible over most of diameter	Visible upper half, wear at bottom			
Carbon	None	Trace			
Dry Spots	None	Top of counter bore			
Wear	None	At bottom			

	Cyl. No. 1		Cyl. No. 2		Cyl. No. 3		Cyl. No. 4	
	Vert.	Horz.	Vert.	Horz.	Vert.	Horz.	Vert.	Horz.
Measurements of diameters at start of test	24.003	24.003	24.008	24.008	24.005	24.005	24.008	24.008
Measurements of diameters at completion of test	24.008	24.009	24.011	24.017	24.011	24.011	24.008	24.008
Wear	.005	.006	.003	.009	.006	.006	.000	.000

	Cyl. No. 1		Cyl. No. 2		Cyl. No. 3		Cyl. No. 4	
	Vert.	Horz.	Vert.	Horz.	Vert.	Horz.	Vert.	Horz.
Measurements of diameters at start of test	24.003	24.003	24.006	24.006	24.006	24.006	24.006	24.005
Measurements of diameters at completion of test	24.019	24.012	24.026	24.014	24.014	24.011	24.008	24.006
Wear	.016	.009	.020	.008	.008	.005	.002	.001

Engine No.	Oil Used	Hours Run	Oil Consumed
Engine No. 1	Texaco Ursa Oil	1172.5	164½ Gals.
Engine No. 2	Competitive Oil	1170.2	168½ Gals.

This test is most conclusive as it covers a considerable period of operation and the condition of both engines was carefully examined and measured before and after use of the oils. The most significant result of this test is shown in the relative amount of wear in the cylinders of the two engines. In the case of the engine using Texaco Ursa Oil, the average wear per cylinder during the test period was .00438" as against the average wear per cylinder on the engine using competitive oil of .0085". In other words, the cylinder wear on the engine using the competitive oil was almost twice as great as on the engine using Texaco Ursa Oil.

A condition in gas engine operation which indicates deposits of carbon is back-firing. This is caused by the carbon becoming in-

candescent and igniting the charge as it is put into the cylinder. There was enough carbon being formed by the competitive oil to allow a sample to be secured which was examined with the results:

Soluble in Gasoline	18.8%
Soluble in Tetra-Chloride	1.1%
Insoluble Material	69.2%
Silica	1.7%
Iron Oxide	8.2%

The insoluble material consisted principally of free carbon formed by the breaking up of the oil.

There was an insufficient amount of carbon formed by the Texaco Ursa Oil to secure any sample whatever.

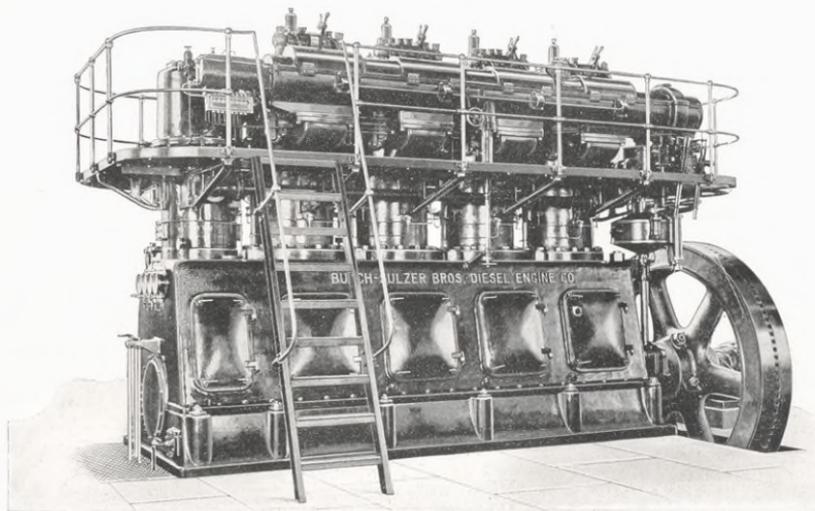
The characteristics of the competitive oil indicated it to be a paraffine base lubricant of high flash (410° F.)

In conclusion, the very best evidence of lubrication is always in the action of the machine itself. When two similar machines can be operated with two different oils,

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the practical observer can usually see some indication of the greater usefulness of one oil as compared with the other. This is generally more noticeable upon starting the engine or upon shutting down. In this case, when the engine lubricated with

Texaco Ursa Oil was shut down it rocked back and forth before coming to rest. The engine lubricated with the competitive oil stopped suddenly without any rocking, indicating quite clearly the braking effect of improperly lubricated surfaces.



### THE DIESEL ENGINE

E. A. GARRETT

Of Brush-Sulzer Bros.-Diesel Engine Co.

Wherever the prime mover must be quiet in operation and free from vibration, occupy small space, require the minimum attendance, be capable of long non-stop operation, maintain a record of high reliability, be safe, and, last and most important, show great economy in fuel, lubricating oil, and supplies,—there the Diesel engine is to be reckoned with.

In plants of moderate size, from 100 to 1000 H. P., the Diesel engine generally meets economy requirements better than any other type of prime mover. It requires the minimum of space, operates with an efficiency far above that of any other type of prime-mover, and stores up no energy which, through the weakness of any part of the equipment, might become a menace to life and property.

The Diesel engine is a compact power unit which is complete in itself. There are

no inspection, cleaning, repairs, and renewals of boilers, no possibility of explosions, no coal to be handled, no ashes to be disposed of, no dirt, no dust; and it operates with approximately the same efficiency at half load that it does at full load.

The Diesel engine is an internal combustion engine which consumes crude oil, lowest grade fuel oil, or the residues of oil refining. There is no smell or color to the exhaust. Combustion of the fuel is perfect, as it takes place in an incandescent atmosphere under such ideal conditions that the highest thermal efficiency known to engineers is realized under average operating conditions year in and year out.

The Diesel engine, here illustrated, marks a noteworthy economic advance in prime-movers for the United States and puts this country abreast, if not actually ahead of the latest developments in

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European Diesel design. It is of the vertical, 4-cylinder, 4-cycle, single-acting, enclosed crank case, medium speed type; it was developed especially to take precedence wherever continuous service, high maintenance of efficiency, and great economy in operation are required. The Busch-Sulzer Bros.-Diesel Engine Co. of St. Louis are the builders, and this engine is their "Type B."

*Structural Details.*—The first illustration shows a general side view of the 500 horse-power unit. It will be seen that in many ways this engine is similar to the automobile engine—inasmuch as it has four working cylinders and an enclosed crank case, and operates on the 4-cycle principle. It appears, however, to have five cylinders. The small cylinder at the left in the illustration is the 3-stage air compressor, which compresses the air used for starting and atomizing the fuel as it is injected into the cylinders previous to and during combustion on the working stroke of the cycle. The governor is shown at the right below the gallery, and the fuel pump is shown just above the gallery over the governor.

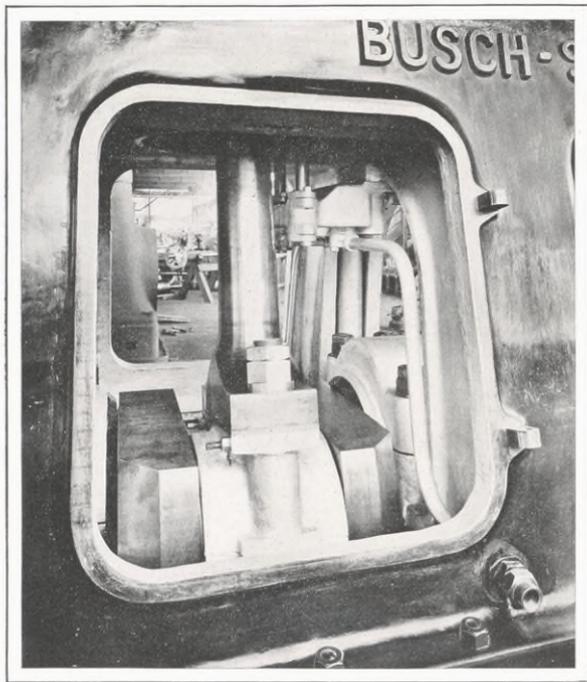
It will be seen from the photograph that the cam shaft is located level with the cylinder heads. This does away with the use of push rods, simplifies construction, reduces the number of parts, and arranges those parts which should have regular inspection at a convenient height where they can be readily examined by the operator. The cylinders and cylinder heads are cooled in the same manner as in an automobile engine; but the system of water cooling in the Diesel engine also cools the pistons, the principal bearings, and the exhaust pipes, thus assuring a cool engine and a cool engine room. A compression relief gear economizes starting-air. The manufacturers feel that they have provided all the refinements and economy devices sanctioned by their extensive experience.

This second photograph shows clearly the extraordinary accessibility of the enclosed frame. This construction is more rigid than the "A" frame, ensures noiseless operation, and precludes the possibility of the escape of oil vapor into the engine room and flinging of lubricating oil.

This engine is equipped with a forced lubrication system operated by a rotary positive replacement pump which contains oil filters in duplicate and an oil cooler. Not only does the system lubricate the bearings but it also cools them at the same time.

The oil is fed at a pressure of 15 pounds per square inch and is carried from the main bearings through the shaft to the crank pin bearings and from thence through the connecting rods to the wrist pins. It is strained and cooled and used again and again, a very copious flow being provided.

The amount of waste heat recoverable from a Diesel engine offers a very considerable return on the cost of the additional equipment needed for its utilization. This is well worth taking into consideration. In the form of heated water it is available for heating purposes, for hot water in lavatories, and as boiler-feed. The waste heat from the engines operating the manufacturers' own shops is thus applied. The heated cooling water is used for boiler feed and in the lavatories, and the heat from the exhaust in their hot water heating system. The



Demonstration of the accessibility of enclosed parts

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return water from the hot water heating system passes through exhaust gas heat economizers where it receives its initial temperature rise, then through heaters supplied with the exhaust steam from the steam turbines (used to circulate the water in the heating system) where it receives its second temperature rise, and then, when the weather is very severe, through a third series of heaters supplied with live steam. This gives two or three temperature rises to the water in the heating system, depending upon weather conditions, before it is returned to the radiators in the shops and office buildings.

As the amount of heat recoverable from the exhaust gases and from the cooling water amounts to 45% of the total heat value of the fuel used, for every \$1,000 spent in Diesel fuel but \$550 worth can be charged to the generation of power, and the 45% saved amounts to \$450 worth. Forty-five per cent is a large saving, especially considering the small cost for the necessary equipment. Actually the saving is much greater, as \$450 worth of the same fuel burnt under a boiler would *not*, on account of losses by radiation and up the stack, come within 20% to 25% of the heat recovered and utilized by such auxiliary Diesel equipment as the manufacturers supply.

A vital consideration in the choice of power is the life of the equipment. This characteristic so intimately associated with maintenance and depreciation deserves far more consideration than it usually gets. More than five-sixths of the cost of a complete Diesel installation is represented by parts that are entirely free of the wear and tear incident to operation. Compare this with a steam installation, *i. e.*, engines, boilers, and all auxiliaries. The heavy and expensive parts of a Diesel engine are not subject to wear at all; while, of the parts sometimes requiring renewal, a large majority operate without replacement for years. The parts most susceptible to ordinary wear and tear are either the least expensive or are easily repaired.

Complete and suitable lubricating and cooling systems, interchangeability of parts, rugged construction, and proved design always cut maintenance charges to the minimum. This is especially true of honor built Diesel equipment. For maintenance and depreciation 5% is considered ample by the Busch-Sulzer Company to cover all contingencies arising from the operation of their units.

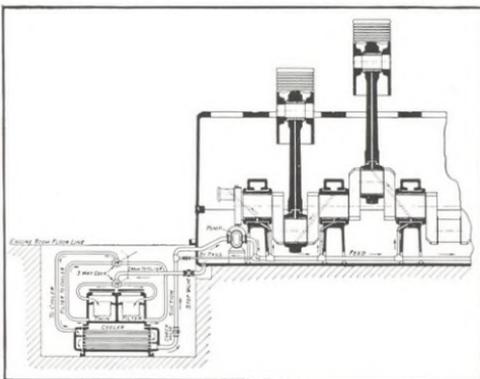


Diagram of Forced Lubrication System

In the Busch-Sulzer Diesel plant, manufacture and inspection are carried on under separate and distinct departments, neither of which is biased by considerations favorable to the other. This has made it possible for this Company not only to obtain the highest standards of manufacture but the perfect interchangeability of duplicate and wearing parts. New parts may be telegraphed for with the assurance that when they are received they will fit perfectly.

In conclusion it may be stated that conditions for the sale of the Diesel type of engine have recently received great impetus from the increased production of fuel oil, its cheapness, and the stability of the market. These conditions have developed a run of orders sufficient to keep the builders' plant in operation night and day for the past three months. Inquiries are on the increase and the expectation of the manufacturers is that their shops will continue to run on two ten-hour shifts per day for an indefinite period.

### POWER LOSS OF INTERNAL COMBUSTION ENGINES AT VARIOUS ALTITUDES

The rated horse-power of all internal combustion engines is computed at sea-level.

Altitude	Loss	Altitude	Loss
1000	5 %	5000	20 %
1500	7 ½ %	6000	22 %
2000	10 %	7000	25 %
2500	11 %	8000	27 %
3000	12 ½ %	9000	30 %
4000	15 %	10000	33 %

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### PHYSICAL TRAINING FOR BUSY PEOPLE

L. F. Fuld, Ph. D., Ass't Chief Examiner, Municipal Civil Service Commissioner, New York.

*(From Gymnasium and Playground, by author's permission.)*

You need not go to a gymnasium nor buy a special gymnasium suit to obtain the benefits of physical training. Physical training means only such systematic exercising of the muscles of the body as will result in the symmetry and the grace and clear complexion and cheerful disposition of good health. If you know how to use your muscles properly you can obtain from your daily activities most of the benefits of a course in physical training.

How do you get up in the morning? Try this method: When you awaken, lie flat on your back with arms extended above the head. Stretch yourself and try to make yourself as long as you can. Take several deep breaths. Unhampered by your clothes, you experience the novel and pleasurable sensation of feeling the blood tingling through your arteries from head to foot. The extension of your arms above your head will tend to develop your chest and your back will be supported and strengthened in this position. The assumption of this position every morning will tend to overcome that tendency to flat chest and round shoulders which all have who do not exercise regularly. When you start to get up, do not turn over and roll out of bed. Get some benefit from the movement. Holding your hips with your hands, rise to a sitting position without helping yourself at all with your hands. You may find this difficult at first, because the muscles of your abdomen are seldom used by you during the day. In most of us these muscles have become a mass of fat. When exercised daily they become smaller and firmer and the size of the waist is reduced. If your abdominal muscles are weak, it may be necessary for you to help yourself by placing your hands on the bed and pushing yourself up. This makes the movement much easier and also much less beneficial, and the hands-on-hip position should be used as soon as possible.

The spine, in its beautiful natural position, forms a double curve; it curves outward at the shoulders, inward at the waist, and outward again at the hips. As we bustle about our duties we continually disturb this beautiful double curve. If after

every disturbance we bring the spine back to its natural position, no harm but rather benefit, will result. Frequently, however, we disturb the double curve unnecessarily, and, more frequently, after disturbing fail to bring it back to its natural condition.

Proper and improper methods of treating the spine are well illustrated when you put on your stockings. Do you not assume a position in which the double curve has been changed into an ugly single outward curve? In such a position you cannot take a full and invigorating breath, because your chest is cramped by the bad position of your spine. The whole weight of your distorted trunk rests upon the principal arteries and veins of your body, rendering it impossible for the heart to maintain the circulation without impediment. The abdominal organs also are crowded out of their natural position. If this position is maintained for the time it takes to put on your stockings, you begin the day's work in a manner which interferes with the functions of the organs of the body.

If you wish to assist in maintaining the double curve of the spine, upon which so much of your health, strength, and beauty depends, assume this attitude when putting on your stockings: Lie on your back on your bed fully extended (in this position your spine is supported at the shoulders and at the hips and the inward curve at the waist is properly maintained), raise the



right knee toward the chest, and while in this position put on your stocking. Repeat this exercise with the other leg. Deep breaths may be taken in this position, since your chest is unhampered by pressure from the spine. Deep breathing will stimulate your circulation and permit you to feel the tingling of the blood in your arteries. The contraction of the muscles used in bringing the legs up to the chest will serve to strengthen the muscles of your abdomen, which are seldom used during the day. This exercise will also

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stimulate the liver and the other organs of the abdomen.

The three or four minutes devoted to putting on the stockings, if utilized in this manner will convert a movement which is usually harmful to health into one of distinct benefit. It will strengthen the double curve of the spine instead of destroying it. It will develop the chest instead of cramping it. It will stimulate the circulation in-

stead of impeding it. It will strengthen the abdominal organs instead of displacing them. In short it will enable you to begin the day's work with the feeling of radiant, buoyant health, instead of with the discouraged, disheartened feeling that always accompanies cramped respiration, impeded circulation, and deranged digestion. See to it that you begin your day right.

### BY THE WAY

M. H. Edwards, of El Paso, Texas, in charge of the Auto Service Station shown in these two photographs, says he thinks his new sign and window display "classy enough to be put in the *Texaco Star*,"—and we think he is right about it. Mr. Edwards is shown standing in the doorway in one picture, and sitting at his desk in the other.



Mr. L. C. Oakley, Land Agent in the Legal Department, New York, sends this interesting letter:

*Editor Texaco Star:* Yesterday, I stopped at a small garage near 18th Ave. and 45th Street, Brooklyn, and engaged in conversation a man retailing our gasoline. In the course of our talk he said he had sold gasoline to a Professor of Chemistry in Columbia University but could not sell him motor oil. The Professor was asked to leave his car and come into the garage. Two evaporation saucers were produced, and a crude test against the customer's sample proved the garage man's point. The Professor was offered a sample for his own laboratory test, but he said: "No, young man, my hat is off to you." He has since bought our goods and has sent three friends to buy, and it is to be hoped that the end is not yet.

Yours very truly,  
L. C. Oakley.



When James A. Garfield was president of Oberlin College a man brought for entrance as a student his son, for whom he wished a shorter course than the regular one.

"The boy can never take all that!" said the father. "He wants to get through quicker. Can you arrange it for him?"

"Oh, yes," said Mr. Garfield. "He can take a short course; it all depends on what you want to make him. When God wants to make an oak he takes a hundred years, but he only takes two months to make a squash."—*Ladies Home Journal*.

Editor—"Did you say you evolved this joke yourself?"

Artist—"I did, sir."

Editor—"H'm, and yet you don't look more than thirty years of age."—*Punch*.

Woman may be the weaker vessel, but she can generally break a man.—*Life*.

DEPARTMENTAL NEWS

The Managers of the respective Departments have assigned to the gentlemen whose names and addresses are here given the duty of sending to the *Texaco Star*, on or before the twenty-fifth day of each month, reports of new appointments, transfers, removals, resignations, promotions, and other items of departmental news of general interest. Suggestions and information for this purpose should be sent to them before the twentieth day of the month. All are invited to co-operate:

Pipe Line Dept.	A. M. Donoghue, Houston.
Natural Gas Dept.	D. P. Harrington, Fort Worth.
Fuel Oil Dept.	E. B. Joyner, Houston.
Refining Dept.	C. K. Longaker, Houston.
Marine Dept.	{ E. C. Macmillan, Port Arthur.
Legal Dept.	{ A. R. Weber, New York.
Treasury Dept.	{ J. S. Ballard, Houston.
Comptrollers' Dept.	{ Lee Dawson, Houston.
Sales Dept., S. Territory	{ B. E. Emerson, Houston.
Sales Dept., N. Territory	{ P. A. Masterson, New York
Export Dept.	{ M. G. Jones, Houston.
Purchasing Dept.	{ J. B. Nielsen, New York.
Railway Traffic Dept.	{ J. E. Byrne, Chicago.
Producers	{ J. W. Painter, Houston.
	{ P. C. Harvey, Houston.

PIPE LINE DEPT. Sup't E. Auxter, at Shreveport, very quietly journeyed up to Texarkana on Thursday, May 20, and was married to Miss Turner of Shreveport. It is rumored that there will be another marriage of one who has been associated with Mr. Auxter for some time, and his many friends are expecting to hear of the announcement.

I. P. Chidsey has been appointed Chief Clerk to General Superintendent J. L. Dowling, with headquarters at Houston. His many friends are glad to learn of this appointment and know that "Ike" will be of great assistance in his new work.

J. B. Alleman, formerly in charge of Sour Lake Warehouse and Shops, is now located at Houston as assistant to Superintendent H. Fowle, with title of Foreman. F. A. Hale, district foreman at Naborton, La., has been transferred to Sour Lake, succeeding Mr. Alleman. P. J. Code, an old timer in the Texas and Louisiana fields, succeeds Mr. Hale as foreman in the De Soto fields.

Mike Hollern, connection foreman in the Caddo oil fields, has moved headquarters to Shreveport to assist Mr. Auxter.

R. K. McFarland, Pipe Line Gauger for some years, succeeds J. R. Flynn, resigned, as Tank Gauging Engineer at Houston.

Sup't J. C. Colligan and Assistant E. L. Sturm have moved their headquarters from Gates to Dallas, Texas, and are now located on the sixth floor of the Wilson Building. R. L. Dunkle, who has been employed in the Houston Office, will be associated with Mr. Colligan at Dallas after June 1.

The Pipe Line offices at Wichita Falls have been moved from the Kemp & Kell Building to the new Walter Reid Building.

REFINING Recent changes in the Refining Department Organization resulted in the following appointments:

- F. T. Manley, Assistant Manager, Houston
- F. P. Dodge, First Ass't Gen'l Sup't, P. A. Works
- T. Rieber, Second Ass't Gen'l Sup't, P. A. Works
- D. J. Moran, Chief Engineer, Port Arthur Works
- W. K. Holmes, Superintendent, West Tulsa Works
- T. Mullin, Superintendent, Lockport Works
- M. Edward, Ass't Sup't, Providence Terminal
- J. B. Krom, Chief Clerk, Lockport Works
- H. S. Leever, Chief Clerk, Amesville Terminal
- L. A. Taft, Chief Clerk, Norfolk Terminal
- S. Hallager, Chief Clerk, Bayonne Terminal

The heads of departments and foremen at the Port Arthur Works and Terminal gave a banquet at the Hotel Plaza, Port Arthur, May 10, in honor of F. T. Manley, whose appointment as Assistant Manager of the Refining Department, with headquarters at Houston, became effective June 1. D. J. Moran presided as Toastmaster and each guest was asked to respond to the toast as outlined on the blue print. Covers were placed for fifty. The table was in the form of a T, and at the centre was suspended a floral red star and green T. After all toasts were responded to the guests' attention was called to the suspended star, where hidden within the T was a beautiful Howard watch and chain. On behalf of the employes Dan Moran, in one of his characteristic speeches, presented the watch and chain to Mr. Manley. Mr. Manley was genuinely surprised and visibly affected, but managed to respond gracefully. Music was furnished by Von Benken's orchestra. The following noon all employes were assembled on the plot of ground back of the office and a photograph was taken by Trost.

Sup't F. P. Dodge of the Lockport Works, having been transferred to Port Arthur Works as First Ass't General Superintendent, the Lockport employes, in an effort to show their high esteem presented him, before his departure, with a beautiful diamond-studded Masonic watch charm. He and his talented wife leave a host of friends at the Works and in the community. Good wishes of all go with them.

The Refining Committee held its regular meeting on May 19; in attendance were:

- Dr. G. W. Gray, Chairman
- C. C. Blackman, Gates
- T. Mullin, Tulsa
- F. P. Dodge, Lockport
- C. C. Hawkins, Ft. Neches

The semi-annual meeting of the Refining

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Department Efficiency Committee was held in the new home of the Company, May 20-21; in attendance were:

P. C. Scullin, Chairman, Houston

C. C. Blackman, Gates	W. N. Long, Pt. Arthur
T. Mullin, Tulsa	D. J. Moran, Pt. Arthur
F. P. Dodge, Lockport	B. E. Hull, Houston
C. C. Hawkins, Pt. Neches	T. Rieber, Houston
R. L. Drake, Pt. Arthur	C. K. Longaker, Houston

Papers and statements showing economies effected were presented and discussed. One of the pleasant features of the session was a short joint meeting with the superintendents of Southern Sales Department.

The Safety and Sanitation Committee met in Houston May 14; in attendance were:

V. R. Currie, Chairman, Houston

W. K. Holmes, Gates	D. J. Moran, Pt. Arthur
L. L. Newton, Tulsa	Ed Trussell, Pt. Neches

The reports indicate that the Safety movement is well received by the employes, who offer every aid to carry out the plans of the Committee. The Committee is to be congratulated on the work accomplished in the short period during which they have been organized.

V. R. Currie, formerly Chairman of the Central Committee of Safety and Sanitation, has been transferred to the Export Department. His friends and business associates complimented him with a boat trip to Morgan's Point and fish dinner at Cupola Inn. As a parting gift and reminder of their friendship and good wishes Mr. Currie was presented with a handsome traveling set and bag.

The following have been added to the Houston Office force:

W. B. Martin, Accounting  
J. E. Elliott, Engineering

Entries to the 1915 Texaco Baby Show are coming in rapidly. We announce for Houston offices of Refining Department, the arrival of a girl at the home of Mr. and Mrs. A. C. Kellersberger and a boy at the home of Mr. and Mrs. J. C. D. O'Piel. The Cigar Stand in The Texas Company Building reports the Refining Department its best customer.

Announcement is made of the arrival of an eight pound girl at the home of Mr. and Mrs. Carl Nicholson, Lockport, Ills.

Rearrangement of the office force at Lockport Works resulted in the promotion of Carl Nicholson from storekeeper to shipping clerk.

It was reported in last month's *Star* that the Port Arthur Terminal ball team de-



V. R. Currie

feated the Port Arthur Works team on April 18. It now develops that this was an error, inasmuch as it was only the Port Arthur Works scrub team that participated in that game and not the regular team. The Terminal team has, however, met the regular team twice—April 25 and May 16, the first game resulting in a victory for the Works team, the second in a triumph for the Terminals. The two teams will meet soon to decide the championship. The scores of the two games were

		R	H	E
First game:	Terminal	5	6	4
	Refinery	13	14	5
Second game:	Refinery	8	13	0
	Terminal	9	14	6

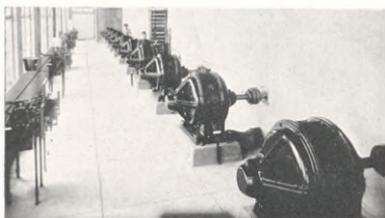
C. W. Horan, who has been in the New York Office, has been transferred to Port Arthur Terminal. Should Charley visit Houston we wish to warn him that the "Jay-walking" ordinance is still in force.

Glenn H. Evans, stock clerk at Port

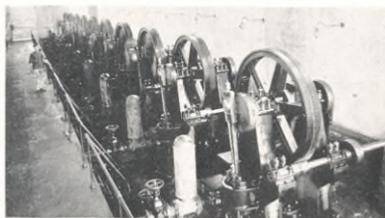
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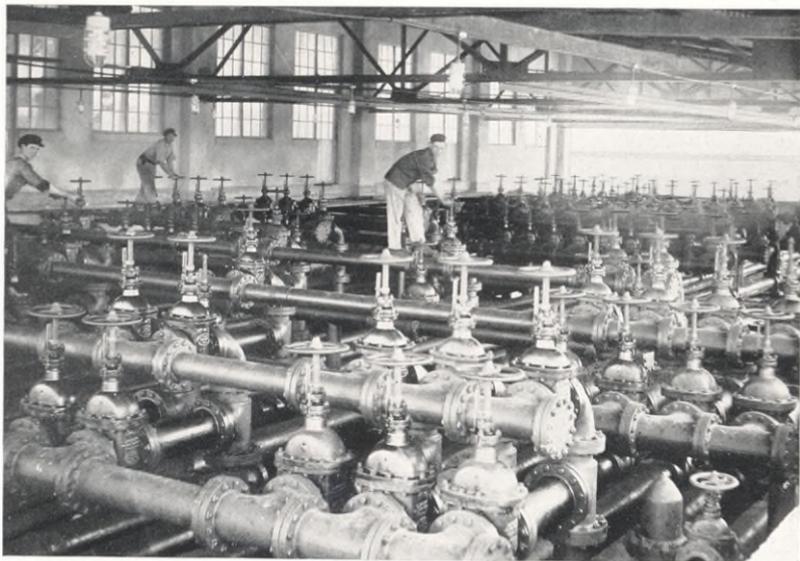
New Pump House No. 4, Port Arthur Works



Pump House No. 4—Motor Room



Pump House No. 4—Pump Room



Pump House No. 4—Pipe Manifolds

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Arthur Works, is absent from his desk on account of an attack of typhoid fever.

O. F. Fuchs of the Port Arthur Works engineering force is spending some time in Salt Lake City, Utah.

J. O. Wilson, Dep't Agent of the Railway Traffic Dep't, Chicago, was a welcome visitor at Port Arthur Works and Terminal.

W. G. Mayo, Sup't Charleston Terminal, is spending a few weeks at Port Arthur.

During the 24 hours ending 7 A. M., Friday May 28, there was a rainfall at the Port Arthur Works of 13.8 inches. Most of this fell between 11 P. M. and 7 A. M. It amounted to 2,700,000 barrels within the Works levees. This was about 25% of the average annual rainfall, and the heaviest ever recorded within the same time since the Works were built. While it caused considerable expense and inconvenience, the operation of the plant was not interrupted.

Through the kindness of V. R. Currie the Texaco Club at Port Neches Works was presented with a library of 175 volumes. The boys at Port Neches will make this gift a basis for a new library and feel very much indebted to Mr. Currie.

The employes at Norfolk Terminal have organized a baseball club, electing T. F. Mercer manager and R. Wicks captain.

R. Amundsen, formerly chief clerk at Bayonne Terminal, has been transferred to the New York Office, Terminal Division.

Ralph Strom has been transferred from the New York Office to Providence Terminal to assume the duties of checker.

J. R. Armstrong, who has been doing the stenographic work at Delaware River during the illness of Miss Julia Anderson, has returned to Providence Terminal.

### WATER SHIPMENTS BY THE TEXAS CO. FROM PORT ARTHUR, TEXAS MONTH OF APRIL, 1915.

DATE	VESSEL	BARRELS Refined.	DESTINATION
1st	S.S. Chr. Knudsen	38,450	Gibraltar
2nd	Brg. Tulsa	8,067	Mobile, Ala.
2nd	S.S. Herminius	15,871	Argentine
5th	M.V. Aretemis	39,086	Gibraltar
7th	S.S. Roma	26,640	Bayonne, N. J.
7th	Brg. Magnolia	7,013	Charleston, S.C.
8th	S.S. Florida	10,388	Bayonne, N. J.
8th	S.S. Radiant	1,567	Bayonne, N. J.
9th	S.S. Texas	57,726	Norfolk & Dela. Riv.
9th	Brg. Dallas	16,808	Providence, R. I.
10th	Brg. Tulsa	8,021	Amesville, La.
12th	S.S. Louisiana	32,284	Charleston, S.C. Baltimore, Md.

12th	S.S. Vesta	2,133	Bayonne, N. J.
13th	S.S. Illinois	58,602	Providence, R. I.
15th	S.S. Arethusa	27,289	Guantanamo, Cuba
15th	S.S. Goldmouth	66,988	Dartm'th, Eng.
16th	Brg. Tulsa	7,104	Pensacola, Fla.
16th	S.S. Alm	9,321	West Indies
17th	Sch. Kineo	19,092	Bayonne, N. J.
19th	S.S. City of Everett	2,113	Bayonne, N. J.
20th	S.S. Brabant	28,808	Gibraltar
21st	Sch. Curacao	2,609	Jamaica
22nd	S.S. Panuco	22,123	Guantanamo, Cuba
25th	S.S. Berwind	3,047	Porto Rico
25th	S.S. Aero	230	Cuba
26th	S.S. El Toro	63,822	Dartm'th, Eng.
29th	M.V. Panama	54,556	China
29th	S.S. Roma	27,430	Delaware River
29th	Brg. Tulsa	7,778	Mobile, Ala.
30th	S.S. Natica	59,143	Panama Canal
30th	S.S. San Eduardo	60,530	Dartm'th, Eng.
784,639			

#### Crude.

8th	S.S. Florida	1,495	Bayonne, N. J.
8th	S.S. Radiant	21,862	Bayonne, N. J.
12th	S.S. Vesta	35,108	Bayonne, N. J.
13th	S.S. Illinois	2,338	Providence, R. I.
19th	S.S. City of Everett	26,712	Bayonne, N. J.
21st	Sch. Curacao	6	Jamaica
25th	S.S. Aero	28,572	Cuba
116,993			

Total, 900,732 bbls.

The Marine Department was favored with a visit from Gilbert DEPT. Patterson, Tampico. Gerald Harvey, from Tampico, was also here, renewing acquaintance with his old friends in this Department.

Robert Strahley has been employed by the Marine Department as a stenographer. Mr. Strahley, who came from Cincinnati to take this position, is a brother of C. O. Strahley, who has been with the Marine Dep't several years.

The Board of Commissioners of Asbury Park, N. J. have adopted a novel plan for the entertainment and instruction of visitors at that summer resort. Coastwise vessels pass close to the boardwalk at Asbury Park, and naturally excite interest and curiosity as to their identity. A bulletin board has, therefore, been placed on the boardwalk showing the stack marks and house flags in colors of various steamers which pass the resort, and each ship will blow a whistle salute when passing. The ships of The Texas Company will also hoist their signal letter flags, so that each boat can be identified.

## TEXACO STAR

SALES DEPT.  
S. TERRITORY

J. C. McDaniel, tank wagon driver, Dallas Station, has been on his route since August 1914 and in that time has increased the gallonage on this route over 100%. He has also reduced his route to



J. C. McDaniel, Tank Wagon Driver, Dallas, Texas an almost cash basis, taking in less than 10% of his entire gallonage as credit sales and those only to customers whose credit has been approved by the Credit office.

J. W. Perry, new agent at Paris, Texas, is proving to be a live wire and is showing a good increase at his station.

Employees of the Dallas District Office have organized a base ball team with A. T. Head, Manager, and R. C. Williams, Captain. The boys have been down to hard work getting in form, and expect to have one of the best base ball teams in the city before the season is over.

The employees of the Dallas District Office have also organized an Athletic Association with officers: T. E. Goodwin, President; A. T. Head, Vice-Pres.; Geo. Cato, Treasurer; J. W. Fuller, Secretary. They have laid off a beautiful tennis court at the Dallas Station and are arranging for matches with other city organizations, with promise of some interesting games.

On April 23, about 5:30 P. M., the Altus, Okla. Station was destroyed by fire, originating from a defective flue. The warehouse was entirely destroyed and the storage tank badly damaged. Agent Roberts and Driver Kidd and the team were not injured.

The Oklahoma District is justly proud of tank wagon driver R. J. Crane, of Chickasha, Okla., whose lubricating sales during April broke his best previous record.

In complimenting him, he is herewith invited to *do it again*.

Paul Woods, Clerk at Tulsa, Okla., resigned, effective April 15, and was succeeded by Charley Clink, former tank wagon driver.

J. P. Terrell, tank wagon driver at Ada, Okla., has caught the Texaco spirit. He entered the service February 1 at Ada Station, and on April 30 had increased his City business to a very gratifying degree.

During the recent Southwestern Sweep Stakes, held in Oklahoma City April 29, Texaco Motor Oil and Texaco Gasoline won \$2,500 in cash prizes.

J. R. Imholte, Statistician, New Orleans District Office, resigned May 1 and moved to Cincinnati, his former home. He is succeeded by W. S. McKercker.

Stock Clerk H. C. Brown is rejoicing over the arrival of a bouncing baby boy.



"Duke of Orleans" in action.  
A. Mathis, New Orleans

COMPARATIVE EFFICIENCY STANDING OF SALES DISTRICTS AND STATIONS, SOUTHERN TERRITORY, MONTH OF APRIL, 1915

Page twenty-eight

	Highest Percent of Collections to Outstanding Accounts and Bills Receivable	Lowest Percent of Accounts Transferred to "B"	Lowest Marketing Gallonage Cost	Lowest Marketing Percentage Cost	Highest Percent Increase Sales of Lubricating Oils as Compared with March	Highest Percent Increase Sales of Grease as Compared with March	Highest Percent Increase Sales of Roofing as Compared with March	Highest Percent Increase Sales of Refined Oil and Gasoline as Compared with March
Leading Districts, in order named	El Paso New Orleans Denver	New Orleans Denver Dallas	Denver New Orleans Houston	El Paso Denver New Orleans	Denver Dallas Houston	El Paso Oklahoma New Orleans	New Orleans El Paso Birmingham	Houston New Orleans El Paso
Leading Stations in Atlanta District, in order named	Lancaster Columbus Sumter	Jacksonville Columbia Lancaster	Sumter Live Oak Charleston	Live Oak Sumter Charleston	Sumter Lancaster Roswell	Columbia Roswell Atlanta	Anderson Carrollton Savannah	Sumter Lancaster Live Oak
Leading Stations in Birmingham District, in order named	Bessemer Birmingham Mobile	Mobile Sheffield Bessemer	Mobile Montgomery Birmingham	Mobile Montgomery Birmingham	Bessemer Selma Sheffield	Bessemer Huntsville Birmingham	Sheffield Birmingham Selma	Selma Huntsville Mobile
Leading Stations in Dallas District, in order named	Ballinger Cleburne Cisco	Plainview Sherman Dalhart	Amarillo Brady Wichita Falls	Brady Wichita Falls Amarillo	Stamford Coleman Lubbock	Stamford Marshall Plainview	Weatherford Brady Wichita Falls	Paris San Angelo Brownwood
Leading Stations in Denver District, in order named	Victor Trinidad Ft. Collins	Ault Berthoud Greeley	Billings Cheyenne Ft. Collins	Billings Cheyenne Ft. Collins	Trinidad Colorado Spgs. Greeley	Cheyenne Trinidad Billings	Victor Trinidad .....	Casper Greeley Cheyenne
Leading Stations in El Paso District, in order named	Tucson Clifton Clovis	Pecos Artesia Clifton	El Paso Albuquerque Roswell	Albuquerque Silver City Douglas	Silver City Clovis Tucson	Albuquerque Clifton Roswell	Deming El Paso Douglas	Carlsbad Maria El Paso
Leading Stations in Houston District, in order named	Kingsville Austin Yoakum	Pt. Arthur Yoakum Kingsville	Beaumont Kingsville Victoria	Mercedes Pt. Arthur Kingsville	Sour Lake Orange Seadrift	Runge Cameron Seadrift	Galveston Pt. Arthur Sour Lake	Cuero Crystal City Humble
Leading Stations in New Orleans District, in order named	Elton Shreveport Morgan City	Shreveport Welsh Elton	Greenville Harvey New Orleans	Greenville Shreveport Harvey	Lafourche Harvey Donaldsonville	Franklin Harvey Greenville	Greenville Shreveport Lake Charles	Jennings Crowley Elton
Leading Stations in Oklahoma District, in order named	Tulsa Hobart Enid	Oklahoma Hobart Chickasha	Tulsa Altus Hobart	Tulsa Hugo Enid	Guthrie Hobart Hugo	Guthrie Chickasha Muskogee	Hugo Chickasha Oklahoma City	Altus Tulsa Chickasha
Leading Station in Southern Territory	Lancaster	Mobile	Sumter	Billings	Bessemer	Albuquerque	Greenville	Cuero

TEXACO STAR

This statement of Comparative Efficiency Standing presents the good work of various units of our organization, and its careful study is suggested. Being based strictly on percentages of improvement in different phases of our business, it enables the small as well as the larger Stations to gain honorable mention. The statement reflects actual performance and all Stations of every class in every District are nearly on a par for this rating.

Every Agent and Salesman and every Station employe should be interested in this Honor Roll, which gives all an opportunity to show the vital points of excellence in their work. Every man on the Pay Roll can help to boost his Station. Here is the opportunity to show what you are doing.

## TEXACO STAR



Tank Wagon Driver S. F. Brown, Atlanta, Ga.

Mr. Brown has been driving this wagon and the same team for nearly six years. On the up-town streets of the City of Atlanta his wagon and team are commented on daily for their clean and bright appearance, and the Atlanta Station believes that no tank wagon belonging to the Company does a larger average gallonage.



Tank Wagon Driver W. W. McDowell and his little son—Savannah, Ga. Station. This wagon and team took third prize in a May Week Parade in Savannah.

## TEXACO STAR

Lubricating Assistant Campbell has returned to Birmingham from North Alabama Agencies, where he helped to pull off a few stunts, incidentally "raising the grades."

J. A. Morson, our Stock Clerk, recently made a trip to Sheffield as Auditor, to relieve Agent Robertson of the duties of that Station and to check in Agent A. D. Roberts, who is an Old-Time Texaco Man. Agent Robertson after a couple of weeks in the Atlanta District will be Agent at our new Station at Anniston, Ala.

Sup't W. E. Bradford, from Atlanta, spent a few days with us on a flying trip of inspection of the Stations in Alabama.

C. E. Leonard, former Stock Clerk, has left us to go to Atlanta. We wish him every success in his new surroundings, but regretted very much to see him leave us.

We extend to Salesman Levy our sympathy for the recent death of his mother in Cincinnati.

We extend to Engineer Hanners our sympathy for the death of his father at Cullman, Ala.

Salesman Neill is developing marked ability as a Specialty Salesman.

After the Crater Compound Club was formed in Birmingham on April 13, Agent Henly at Decatur took himself home, and within 30 minutes after his arrival sold a half-barrel of Crater to a man on whom he had called constantly since his advent in that territory without results.

W. J. Dempster, comes in as our latest Engineer. Glad to have you with us Mr. Dempster, and wish you every success.

Lubricating Record Clerk Taylor, former Traveling Salesman, to keep his hand in at selling, recently secured a 24 bbl. lube order and 6 bbls. Crater Compound from a large manufacturing concern.

Salesman Shelburne is going after the business in his territory. He has recently closed up some very good lubricating contracts.

W. G. Harvey, was a welcomed visitor at the Atlanta Office.

L. L. Lowe has been appointed agent at Vidalia, Ga.

J. A. White, who at one time was agent at Pelham, Ga. has been appointed agent at Thomasville, Ga. We are glad to have Mr. White with us again.

J. L. Wilson has been appointed agent at Cordele, Ga.

C. D. Crosby has been appointed agent

at Chester, S. C. to succeed I. C. Cross, resigned.

F. C. Kerns, Chief Clerk Lubricating Division, has been visiting New Orleans, Birmingham, and Atlanta District Offices, looking after matters of his Division.

Boston District.—J. W. Riley, formerly Agent at Fall River Station, has been transferred to be Operating Inspector, covering stations formerly covered by R. C. Hayes, Mr. Hayes having been relieved of his duties. Mr. Riley is also "Acting Agent" at Boston Refined Station taking the place of T. J. Fitzgerald recently acting in that capacity, he having severed his connection with this Company.

A. D. Murray, formerly Agent at Hyannis Station, has been appointed Operating Inspector for stations along the Cape.

J. W. Hopkins, formerly General Assistant, on leaving this District to take up new duties in St. Louis was presented with a Smoking Set and the necessary material to make it of use. Mr. Hopkins was totally surprised and we had the pleasure of seeing him endeavor to keep his equilibrium.

New York District.—The Granville Gasoline and Oil Company has been appointed to act as our Distributer at Granville, N. Y.

P. H. Noonan is Agent at our new Station at Saratoga Springs, N. Y.

Emmett C. Storer is Agent at our new Station at Perth Amboy, N. J.

Roberts & White have been appointed to act as our Distributers at Sharon, Pa.

Geo. E. Druquer has been appointed Special Routeman. He will assist Operating Inspectors in securing sales.

F. J. Inglehart has been appointed Agent at Huntington Station, L. I., succeeding S. C. White, transferred.

G. I. Sheffield, Agent at Stamford, Conn. will supervise the operating of the station at Norwalk, Conn. J. W. Nestor, formerly Agent at Norwalk, has resigned.

B. A. Sheridan, Salesman out of Youngstown, Ohio Station, has been transferred to Hudson, N. Y. to act as Agent at our new Station there.

E. M. Rogers has been appointed Agent at Patchogue, L. I., to supersede Frank Heasley who will hereafter act as tank wagon driver at this Station.

## TEXACO STAR

W. F. Pausewang, Jr., has been transferred from Clerk at Youngstown, Ohio Station to Station at Babylon, L. I.

C. O. Terwilliger has been appointed Agent at both of our new stations Herkimer and Little Falls, N. Y.

G. R. Sheffield has been appointed Agent at new Station at White Plains, N. Y.

T. B. Swennes has been appointed to have charge of sale of Coupon Books.

T. J. Cunningham, Chief Accountant of the Territorial Office, is receiving congratulations on the arrival of a nine pound baby girl, born May 24, 1915. The new arrival has been named Elaine List.

Norfolk District.—Norfolk District has opened new stations at Lynchburg and Harrisonburg, Va., J. E. Yeatts being Agent at Lynchburg and I. B. Turner at Harrisonburg.

We have opened a Station at Maxton, N. C., Agent D. McB. Austin.

C. E. Adams and G. D. Capps have joined the accounting force of the Norfolk District Office.

Miss Virginia Fulgham was welcomed to our force May 1. Miss Fulgham takes the position formerly occupied by Miss Cora Thompson, who resigned on account of her health.

Chicago District.—General Ass't C. F. Schmook is the proud driver of a new Jeffery Chesterfield "Six."

R. Valom and J. Lettiere have joined the Chicago 35th Street Station force, the former as clerk, latter as tank wagon driver.

J. T. Groves spent the latter part of the week ending May 22 in Chicago. His stay, though short, was very beneficial to the Sales Organization.

On April 31 at the monthly meeting of the Chicago Chapter of the Crater Compound Club, the following were initiated and now hold membership: J. E. Byrne, C. E. Barnell, I. D. Brown, J. J. Schugmann, Wm. Bennett, C. E. Edwards. By-laws were passed upon, have been printed, and are now ready for distribution. Unfortunately the Purchasing Dep't's representative, J. E. Byrne, had such terror of our procedure of initiation that the enjoyment of the evening was somewhat marred. He is a member now and well satisfied. Mr. Van Moss, please note; applications are in order.

Messrs. Bullard, Schmidt, Eccleston, and Walker are setting an exciting pace for the salesmen of the Motor Oil Campaign

Department. As there is some extremely good timber among the salesmen of this department, these men will have to look to their laurels.

Among the thousands of replies to circular letters sent out by the Motor Oil Campaign Department, Chicago District, some amusing letters have been received. To comply with the postal regulations in mailing sample cans, it is necessary to stamp the word "Fragile" on each carton. A responsive postal requested that we send a one-gallon sample of our best "Fragile Oil." He got the oil.

On Saturday morning May 22, the Motor Oil Campaign Department of the Chicago District made a trip to the Hawthorne plant for the purpose of studying the lubricating systems of automobile motors. The party of about fifteen left in the morning and spent a few hours at the garage where Mr. M. Seavers gave them a practical talk on automobile lubrication, demonstrating the various parts of the motor and the effects which proper and improper lubricants have on the various units. The demonstration was such a success that it will probably be repeated from time to time during the season, as the men are anxious to fortify themselves against all arguments in the solicitation of business.

The Motor Oil Campaign Department of the Chicago District has organized a club to be known in the districts as "The Campaigners." The boys expect, when the permanency of their connection with the Company is assured, to apply for a charter in the Crater Compound Club.

A meeting of St. Louis Chapter Crater Compound Club was held May 12. Plans were laid for including in the membership several of the boys at Barton Street Station and Chief Clerks of filling stations.

Much regret was expressed by the members of the St. Louis Office when it was learned that Acting Agent Macomber was to be taken back to Chicago. Mr. Macomber has the highest esteem of the employes in the St. Louis Territory.

Arthur Lefevre, Jr. and Miss Carrie Beaman were married on May 20, 1915, at the home of Miss Beaman's parents in Berkeley, California. Mr. Lefevre was formerly associated with his father as Assistant Editor of the *Texaco Star*, but is now in charge of the Houston office of the Advertising Division.

## SUGGESTIVE INDEX OF CURRENT ARTICLES

THE MAIN INTEREST IS INDICATED BY CLASSIFICATION OR BRIEF COMMENT

Journals cited are gladly loaned, if in our library, to persons connected with the Company. The journal or journals called for will be sent by return mail, unless in the hands of some one who has made a previous request—and in the latter case, as promptly as possible. Please give full and exact mailing address.

**REFINING** Review of Refining Conditions, by H. G. James, Gen'l Mgr. Western Petroleum Refiners' Association—*Oildom*, May 1915.

**FUEL OIL** Fire Proof Oil Installation—*Petroleum Age*, April 1915.

Novel method of eliminating risk, by Engineers of Interocean Oil Co. and Long Island Railroad.

**SALES** Associated with Lubrication, Part II, by J. W. Saybolt—*Oildom*, May 1915.

Romance Behind the Correspondent's Desk, by Richard Harson Kells—*Business*, May 1915.

System in a Stock Department, by G. H. Culver—*Engineering Magazine*, May 1915.

**PAVING AND ROADS** Poor Sand the Cause of the Rapid Disintegration of a Sheet Asphalt Pavement, by Walter M. Cross—*Engineering News*, April 1, 1915.

**PRODUCERS** The Oil Fields of Mexico—*Oildom*, May 1915.

Discussion by eminent authorities of the future production of this great fuel oil producing country.

Petroleum in South America, by Wm. A. Reid—*Oildom*, May 1915.

Mexico's Enormous Oil Production—*California Derrick*, May 1915.

**GENERAL** The making of Right-Hand Men. V. Developing a Traffic Manager, by Frederick Sanger—*System*, May 1915.

Business Man's Court—*The Annalist*, May 17.

Settlement by Conciliation or Arbitration by the New York Chamber of Commerce is accomplishing good results in steadily widening field.

Saving in Order to Spend—*The Annalist*, June 7, 1915.

**EXPORT DEPT.** One of the many effects of the European war is the difficulty which firms engaged in foreign trade encounter in making remittances. The accompanying photographs show a bag of gold nuggets, before and after it was opened by the Custom House Inspector, received by the Export Department in payment for a shipment of Texaco products sent to French Guiana.

Wilson Fisher, E. Bachilleres, W. H. Borie, W. Prince, R. H. Silley, R. A. Barkley, and Charles S. Dennison have joined the staff of the Export Department.

V. R. Currie, formerly with the Refining Dep't is now with the Export Dep't.

J. R. Pouncey, formerly Auditor Northern Territory, has been transferred to the Export Department as Department Agent.

Ben F. Wright has gone to Bombay to relieve our former manager there, C. V. Birch, who has resigned in order to offer his services to the British Navy.



# REVISION DOWNWARD

In the Cost Per Thousand Miles for Lubrication of

LOCOMOTIVES  
PASSENGER CARS  
FREIGHT CARS

Can be Obtained by the Use of

## TEXACO RAILROAD LUBRICANTS

Prepared for the Most Exacting Service Conditions  
Guaranteed as to Cost per Thousand Miles for One to Five Years  
Skilled Railroad Mechanics to Assist in the  
Economical Reduction of Friction

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Some Other Railroad Products are:

TEXACO FUEL OIL  
TEXACO RAILROAD BURNING OIL  
TEXACO OILS FOR SHOP USE



REG. U. S. PAT. OFFICE

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*Address*

**THE TEXAS COMPANY**

Railroad Department

Houston, Texas

THIS CLEAN CUT ADVERTISEMENT WAS SENT IN BY  
J. A. BROWNELL, FUEL OIL DEPARTMENT, HOUSTON, TEXAS



## NOT DRESSED UP FOR MOVIES

THIS curiously be-decked 'rickshaw man is not dressed up for the occasion. This is his regular costume while at his daily work,

Natives like this carry The Texas Company representatives at Durban, South Africa, on their daily business.

In many lands, on all the Continents, and according to the various local customs, the sale and transport of Texaco Products is carried on in increasing volume.

Our business grows apace here as well as abroad because people the world over appreciate quality when they get it—and Texaco means quality in petroleum products,



THE TEXAS COMPANY

