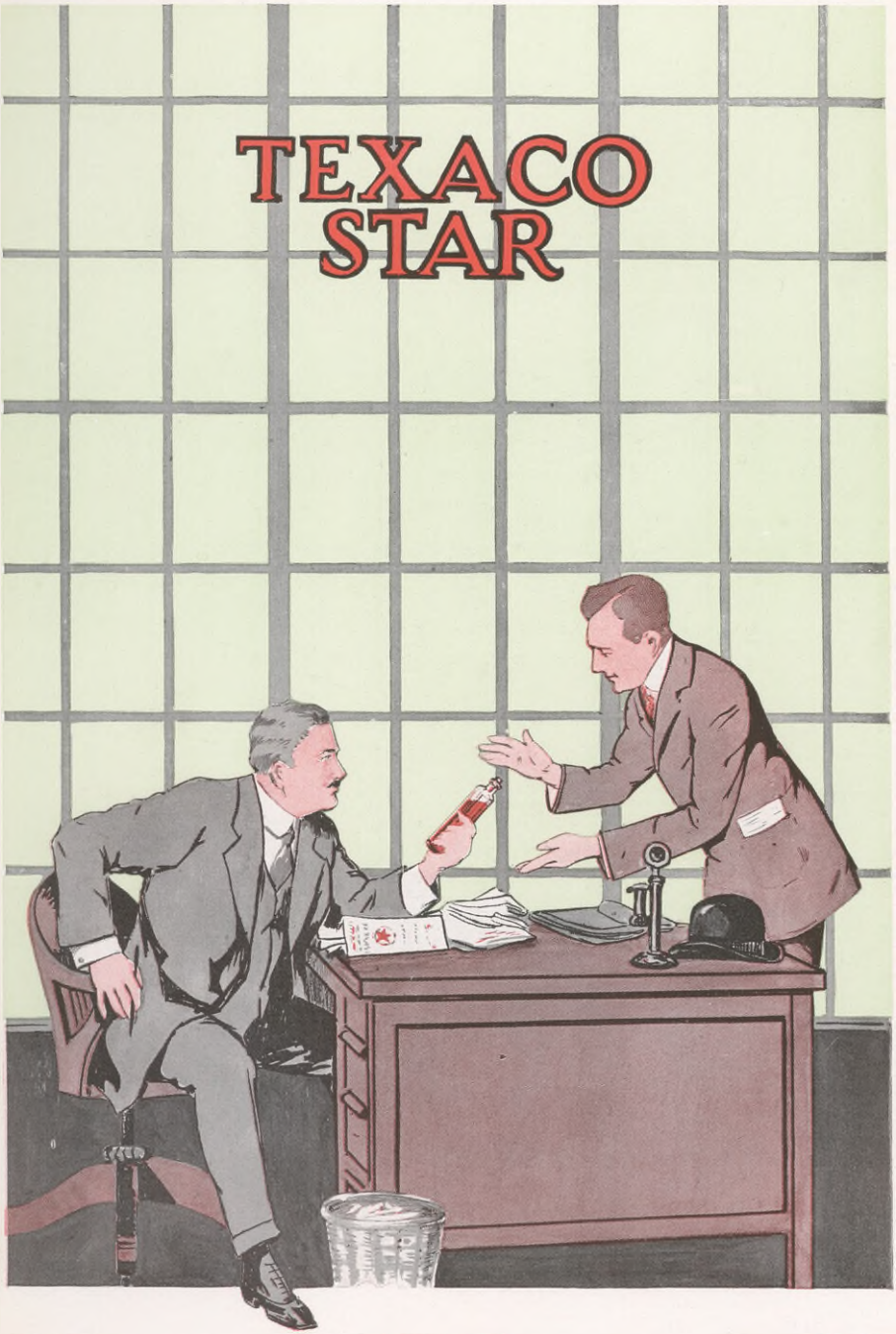
TEXACO STAR



Vol. III APRIL 1916 No. 6

For father—a cosy armchair, his favorite paper and A RESTFUL LIGHT.

For mother—the easiest chair, her sewing basket and AN EASY LIGHT.

For the children—at-home-lessons or books, A CLEAR LIGHT easy on youthful eyes.

These are the comforts you get when you burn

FAMILYLITE

It is an illuminating oil made specially for home use.

It burns with a soft, brilliant glow—and burns evenly down to the last drop.

Familylite is a clean oil, it gives off no smell or smoke. It requires less trimming of the wick—and less refilling of the lamp.

Familylite is one of the numerous Texaco Products made for home use.

TEXACO

THE TEXAS COMPANY

TEXACO

IN perusing the records, especially the records of salesmen's daily reports, we find there is a noticeable absence of regularity in attending to this matter. Making a daily report may appear and is a small matter when compared with the greater duty you have as a salesman, that of selling goods. It is, however, a very important detail and it affects your work in more ways than one. How it affected one salesman, I can illustrate by citing the following instance:

An inquiry was received from a merchant living in a territory noted for its scarcity of railroads. This inquiry, as soon as received, was dispatched to the salesman in the territory, who, at his earliest convenience, called upon the merchant. The trip consumed a whole day, as it was necessary to make a five-mile drive up a creek bottom. For some unaccountable reason the salesman did not succeed in selling this man, nor did he make a report on his call. No doubt he came in late in the evening after a hard day's work and concluded to put off the making of a report until the following morning. Tomorrow never comes as far as reports are concerned. Each day has its own work —its own worry—its own detail, and if you don't do today's work today, the result is—it's left undone.

A few months later this salesman was transferred to another territory and a new man was installed. In their regular course of pursuing inquiries, the Home Office traced the new salesman with regard to the status of the prospect. The new salesman, too, made that five-mile trip up the creek bottom and learned that the only reason this man had written in about a tank, was to enable him to determine the value of an equipment which he intending buying from a friend who had gone out of business.

Here was a case of two salesmen each spending one whole day in the pursuing of imaginary business. The first trip could not have been avoided; the second could have been avoided.

The house had a right to know the results of the first call that the first salesman made; and had they received it, the second man would not have found it necessary to make the useless trip.

Make your reports regularly. It pays to do today's work today.

—*The Bowser Boomer.*

Banquet given by the "Texaco Greasers" after Annual Meeting of Agents and Salesmen of New York District, at "Reisenweber's," New York City, March 16, 1916

TEXACO STAR

VOL. III APRIL 1916 NO. 6

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

ADDRESS: TEXACO STAR, 411 THE TEXAS COMPANY BUILDING, HOUSTON, TEXAS

THIS month, all round the world, there will be plays and pageants, readings, lectures, and orations to commemorate the mortal end and the immortal beginning of a supreme poet. Shakespear died April 23, 1616. If this tri-centennial celebration could lead a presumptuous generation (far more wasteful of its inherited spiritual resources than of materials stored in the ground) to avail itself of the beauty and wisdom and vision offered by Shakespear, it would be fruitful of more profit in the results of sane living and thinking than could accrue from any achievement of industry or science. But will we do more than read or hear barren talk about the man or his works? Will the illuminating dramas themselves be more read and heard?

Persons who read only weak or ugly or false or foolish stuff are much worse off than those who cannot read,—a fact ignored in our so-called education. Worthless stuff gives no real pleasure; those who imagine they enjoy it deceive themselves, even as most "reformers" of our societal and economic affairs only think that they think when they advocate the thoughtless laws which are working so much harm. On the other hand, everyone, lettered or unlettered, who is not mentally defective, would enjoy Shakespear's plays properly presented. If one tells me he does not "like" Shakespear, I simply do not believe that he ever truly read the great dramas. There is a disease which causes some silly persons to eat dirt with relish, and many who are not diseased are accustomed to satisfying hunger with vile food; but none such would prefer, say, soggy biscuits and ill-cured pork to choice and well cooked viands if given experience of the latter. The most characteristic trait of Shakespear's work is its universal appeal, that is its interest for all ages and classes. The interest for one person, or one time, may not be the same as for another, but all would enjoy the splendid works if they were used naturally.

One editor puts it to his readers thus: "It may be that you have not got as much out of Shakespear as you might. If so, this year is a good time to find out what it is and to get it."

* *

Many books and essays on the person or works of Shakespear are valuable to the special student, few are serviceable to the general reader. Of the latter I know none so good as Moulton's *Shakespeare as a Dramatic Thinker* (Macmillan). It is brief, but replete with what is needed to comprehend the dramas as they stand before us—and there is nothing superfluous or foreign to this purpose. The delineation of the actual movement of thought in each drama is such as to impel you to read it for yourself as a vital whole. The book has nothing to do with disputes about authorship or with the personality of the dramatist: "The question what a poet is consciously thinking about and intending when he is making his poem is a curious speculation that belongs to biography, and not to literary criticism. He has constructed his drama, and it is before us; whatever thinking is to be found in this, that is for us the thought of Shakespeare."

* *

Passages quoted from a dramatic work do not give the ideas of the dramatist: Shakespear did not declare, "all the world's

a stage, and all the men and women merely players," he only shows that the morbid humor of Jaques might so express itself; he did not say for himself, "Frailty, thy name is woman," he suggests that a provoked lover might say so.

This "fallacy of quotation" is most frequently stumbled into in misuse of the Bible, and from the same causes—blindness to literary form and failure to read a work as a whole. For instance I have heard sermons preached on the texts, "Man is born to trouble as the sparks fly upward," and "He preserveth not the life of the wicked: but giveth to the afflicted their right (due)," which the preachers took to be Divine utterances; whereas in the drama of *Job* the first statement is answered by God himself, "Ye have not spoken the thing that is right," and the young man who makes the second assertion is interrupted by the voice of God out of a whirlwind, "Who is this that darkeneth counsel by words without knowledge?" Whatever *you* may think about it, the author of the *Book of Job* does not present the quoted opinions as divine words but as divinely censured errors of judgment. In short, those who read in such fashion only think that they read.

* *

The great books, while enlarging the scope of the sympathies, also deepen and enrich them. Such books not only teach a man to respect other nations and ages—they do what is better, they help him to know men. To the efficient man nothing else is quite so important as this. If the engineer is to know men, with whom he has to deal far more formidably or intimately than with bridges or dynamos, he must read them in the great writers of English, at least, from Chaucer and Shakespeare to Rudyard Kipling and Mark Twain.

—*J. A. B. Scherer.*

* *

No translation can be equivalent to its original, but the two most adequate translations in the literature of the world are the English Bible and the German Shakespear. Shakespear is played much oftener (and, it is claimed, is read much more) in Germany than in England—incomparably more than in this country. In this matter are we to remain forever open to the reproach, "a prophet is not without honor save in his own country and in his own house?"

* *

The general nature and present conditions of the oil business ought to be more commonly understood. The surmises and accusations and remedial proposals concerning the rising price of gasoline spread broadcast by newspapers (especially by some big metropolitan dailies) would be ridiculous if misguided public opinion were not a serious matter. The answer of the Secretary of the Interior, on February 2, 1916, to the Senate's questions on the subject casts helpful light upon it, but that document is confined to direct answers to particular questions.

The fundamental fact in the production of petroleum is its fluidity and the consequent migratory nature of its deposits. Coal is fixed in position; one miner cannot take it from beneath ground belonging to another. The owner of one oil well draws his product from the same supply that is tapped by all adjacent wells. Under existing laws producers cannot deal with this nature-established condition of their business so as to exploit the oil in reasonable accordance with economic conditions. They would be punished as criminals if they "conspired" to restrict production and enforced cooperation by every producer in the field (say, by refusal to transport) whenever the output exceeded the demand. On this account every well in a field is allowed to flow, or is frantically pumped, no matter whether there is a consumer's demand for only a fraction of the output. If speculative buyers lack sufficient storage for the surplus, bought for "a song"—as it was a year ago in the mid-continent field, the oil is wasted in earthen reservoirs or spilled into the creeks. The waste is not confined to this. When the price of crude tumbled gasoline became abnormally cheap; and it has been consumed wastefully and been wastefully utilized for economically unsuitable purposes. For instance Director Manning of the Bureau of Mines points out: "As an example of wasteful utilization, three-fourths of our artificial gas is made from petroleum." All artificial gas ought to be produced from coal, and it would be so produced under a sound economic system. As Director Manning says: "Our petroleum deposits are more than 30% exhausted, while our coal is less than 1% exhausted. At our present rate of production it is estimated that our coal supply is adequate for more than 3,000 years. Clearly we should not use our petroleum to compete with our coal."

* *

"The selling price of gasoline is fairly responsive to the supply and demand for

gasoline," answers the Secretary to the Senate from the records. And the increase of gasoline-motor vehicles, tractors, and boats is responsible for the increased consumption of gasoline. The secretary gives figures which speak for themselves:

The statement has been made by several well-informed engineers that the horsepower of gasoline internal combustion engines in the United States is more than twice that of all engines in the United States driven by steam. The following figures indicate this increase:

Number of automobiles in operation in U. S.

Jan. 1, 1910	400,000
Jan. 1, 1911	600,000
Jan. 1, 1912	677,000
Jan. 1, 1913	1,010,483
Jan. 1, 1914	1,253,875
Jan. 1, 1915	1,754,570
Jan. 1, 1916	2,225,000
Jan. 1, 1917, estimated	3,000,000

July 1, 1915....approx. 300,000 motor boats in U. S.
Jan. 1, 1915....approx. 45,000 motor trucks in U. S.
Jan. 1, 1916....approx. 30,000 farm tractors in U. S.

The average consumption per automobile equals 10 to 14 barrels per annum. This figure has been checked against inspection figures of States inspecting all gasoline sold.

The editor of this journal does not know any reliable estimate of the number of stationary engines in the U. S. now burning gasoline. Other significant impartial statistics are shown on page 13.

* *

The 2,000,000 bbls. of gasoline stocks that were in storage Jan. 1, 1915, were exhausted Jan. 1, 1916. The storage stocks of crude oil are now being drawn on, and refiners are exhausting every practical resource and are bidding high for the crude supply. But last year the production of crude oil in the U. S. increased less than ⅔ of 1%, while the consumption of gasoline increased over 17%. Some habits of consumption must change or the demand will outrun the possible supply, at any price, unless "cracking" processes are far better developed practically than is now the case.

* *

This brings us to the second fundamental condition of the business, which needs to be generally understood. Gasoline has been only a small fraction of the results of refining crude oil. Stocks of other products have to be sold *far below their proportional cost.* Kerosene, the bulkiest product, sold for export during 1915 at an average price in bulk of not much over 4 cents a gallon—in cased cans at less than 10 cents. The prices of such products have to be economically balanced by the price of gasoline.

As the only possibilities for reducing the present price of gasoline the Secretary of the Interior suggests:

(a) The use in internal combustion engines of heavier distillates approaching kerosene.

(b) An acceptable kerosene carburetor would at once go a long way toward relieving the present shortage of gasoline.

(c) General use of cracking processes whereby gasoline is made from kerosene and other less valuable petroleum oils. Such cracking processes are being developed, and promise near relief. It is practicable to produce gasoline from kerosene, gas oil, fuel oil, residuums, and heavy crudes by present-day cracking processes, and no oil should be used for fuel that has not been so treated.

(d) Increasing the production of crude to furnish the necessary supplies of gasoline, but this is not to be recommended if it increases the output of distillates for which there is no market.

Secretary Lane states that an enormous reserve supply of petroleum in oil shales in various States "awaits the time when the price of gasoline or the demand for other distillation products warrants the utilization of this source."

The only criticism on these suggestions is that the *practical* availability of present cracking processes is overstated.

* *

Who is this? The following note, written on blank slip in blank envelop, was received in house mail. It probably came to the general mailing room in some packet, as inquiry failed to locate its writer in the building:

Texaco Star, 3-17-16.
Houston, Texas.

Will you kindly enter my name on the mailing list for the Texaco Star, and oblige,

Yours truly,
H. H———.

We give only the initial of the surname, but hope to hear who and where H. H. is, so that his request may be complied with, and also hope to abate such thoughtless correspondence. For we receive many similar notes, whose writers have been identified by laborious investigations.

The *Texaco Star* is sent only to employes who make request for it, but of such there are about six thousand on the mailing list. The list is kept by Departments, Divisions, and Sales Districts for several good reasons, one being to have it corrected for resignations, transfers, etc. at the headquarters of its respective sections. Home addresses are preferred, though not strictly required. Accordingly, in requests to be put on mailing list or to change addresses, everyone should give *both position in the Company and full post office address.*

Chairman Scullin's *Efficiency* section in this issue presents a principle vitally important to any business that aims to continue beyond the life-span of its present managers. Those who neglect it must be either thoughtless or selfishly preoccupied; for "any organization which cannot practically perpetuate itself internally is weak, and in an unsafe position."

* *

"Watching your step will bring promotion quicker than watching the clock."

* *

There is none so blind as they that won't see.—*Jonathan Swift.*

* *

The most dangerous dishonesty is the dishonesty of those who are not honest with themselves.

* *

A little man turns a big job into a little job; on the other hand, it takes a big man to make a big job out of a little one.

* *

"Every employer is familiar with this great Army of Misfits. They are honest. They try. But they haven't the joy of the game in their eyes. And to save your life you cannot tell how to release their powers and give them wing."

* *

Representative W. B. Cope, was on the trial trip of the U. S. S. *Pennsylvania*, which was recently constructed for the U. S. Government by the Newport News Shipbuilding and Dry Dock Company, of Newport News, Va., which ran her trials off the coast of Rockland, Me. There was considerable trouble in securing the proper lubrication for this vessel, but it was finally overcome by using Texaco Reduction Gear Oil. Texaco Navy Fuel Oil was used exclusively on all runs. After careful examination each run showed that the ship consumed considerably less fuel oil than allotted by the Government for each run. Mr. Cope reports that the trial trip was a success in every way, and the ship more than met the requirements. [Item from Norfolk Dist. crowded out of *Departmental News*].

* *

Selling isn't so much strategy—it is sincerity.

You don't sell with yarns now, you sell with facts.

The gentle knock-knock at the competitor is no more. —*Harvester World.*

You are cheating yourself unless you work your whole line and canvass every prospect in your territory regularly.

—*The Bowser Boomer.*

* *

It is very right and proper that a worthy salesman should make some true friends among those to whom he sells; but the salesman whose system is to "work the friendship racket" will soon experience a dearth of both friends and business.

NOT AN ODE TO SPRING

The new year found the maple in despair —a gaunt, creaking, rheumatic wreck, stripped to its battered limbs.

Then the Spring whispered courage into the desolate heart—again it felt the throb of youth and forgotten ambitions sped from branch to branch, harking them back to duty, until every twig gave answer to the call. . . .

No, this isn't a song to spring; on the contrary, it's a hard-hitting, prosaic talk to quitters—to men who've stopped believing in themselves, and therefore, possibly, to you.

All nature is trying to make you understand that you can begin again—trying to tell you that few losses are so utter but that they can be replaced—trying to teach you that failures are fertilizers for growth.

The sapling does not bear fruit at the first try, but, with hope undiminished, it strives and strives until it fulfills its mission.

Are you inferior to a chestnut? Will you let a crab-apple cover you with shame?

Society does not demand that you win immediately, but we do insist that you maintain faith so long as you have the strength with which to attempt.

There is no hour so splendid as that which proves that you can surmount defeat. Hardship is hurtful merely to cowards. It can't break a real man's back—it only stiffens his backbone.

Fortune frowns on weaklings. But if you resist and persist, if you can "come back" with undiminished determination, few hopes are vain.

You are more competent with your misfortunes behind you than those whose storms and setbacks are yet before them. . .

Spring is not only a season—but also an attitude of mind—it's always the right moment to blossom out anew.

—*Herbert Kaufman.*

EFFICIENCY IN SELLING

W. E. O'NEILL
Manager of Roofing Division of Sales Department

Someone has said that it costs more to sell goods than it does to make them; however, we are rapidly learning how to reduce the selling cost by improved methods of distribution. Considerable progress has been made in applying the principles of efficiency in manufacturing processes, but the progress in the sales end has not been so rapid. The problems in the sales end are much more intricate—much more indefinite—than in a mechanical operation and human nature enters to a greater degree, but the fundamental principles are there and it is one of the problems of the future which will be put on a working basis. If we find that there are certain laws underlying selling effort, just as there are underlying the manufacturing end, we ought to apply them. So little has been done along this line that the opportunities for development are perhaps greater than in any other field of business activity.

The old policy was to start a salesman out with an expense check and a sample case; usually his territory was simply a State or portion of a State. Occasionally he was given a list of customers who had been buying from the house, but more frequently he was simply instructed to get busy and send in the orders. In some cases he was coached for a few days by the Sales Manager, who simply touched the main selling points of the more important articles in the line. This method in the past was fairly successful because salesmen from competing houses were no better trained. However, with the advent of some firms selling cash registers and adding machines, the methods of training salesmen were put on a more efficient basis: the selling arguments were standardized; the territories were closely studied and the volume of business possible to be secured was determined. While the products of the firms mentioned above are specialties in the strictest meaning of the word, yet the methods used in selling these goods are not so different from those used in selling other goods. There are certain fundamental laws governing all sales and whether the salesman is familiar with these laws or not does not alter the case. It goes without saying that if the salesman is familiar with the operation of these laws and understands their application, he will have better success in securing business than the salesman who works in a hap-hazard manner.

Efficiency is the watch-word these days; efficiency is as valuable in the sales department as in the shop. Most of the efficiency matter appearing seems to apply particularly to mechanical processes, and one might arrive at the opinion that unless the work could be done under the eyes of a supervisor and each operation timed by a stop-watch the principles of efficiency could not be applied. Nothing is more foreign to the facts. What is efficiency? Simply Scientific Management. Frederick M. Taylor's definition is as follows:

1st The development of a science in place of "rule of thumb" for each element of the work.

2nd The scientific selection and training of the workman.

3rd The bringing of science and the scientifically trained workman together, then the co-operation of the management with the man.

4th The almost equal division of the work and the responsibility between the management and the workman, the management taking over all the work for which they are better fitted than the workmen, while in the past all of the work and a greater part of the responsibility were thrown upon the workmen.

These principles can be applied to sales work as well as shop work. Perhaps not to as great a degree, but surely the standards in present sales work can be greatly improved.

The great trouble with most sales departments is that there is no exact standard with which results secured by a salesman can be compared. As a general proposition it is figured that the selling expense should not exceed a certain per cent of the gross sales; this percentage varies widely, depending largely upon the character of the goods handled. A line of staples can be sold at less expense than a line of specialties. It has been my experience that unless a salesman's salary and traveling expenses run over the limit set he is usually

considered a good salesman and is continued on the pay roll while there may be another salesman on the same force selling at one-half his expense, or disposing of twice the volume at no additional expense. The salesmanager feels that both men are good salesmen but one is better than the other, yet in ninety-nine cases out of one hundred he makes no attempt to analyze the methods employed by the star salesmen. Each man has the same line, it is to be presumed the same prices, and the territories are practically the same. Why are the results so different?

Admitting that the star man is the better salesman; why is he better? Simply because his approach, demonstration, and close—the three steps necessary to all sales—have been properly handled. He has unconsciously, or otherwise, studied out the chief talking points of his line so as to present them in the straightest manner to the buyer and has learned when to close. The man who has studied the talking points of his line and knows exactly what he is trying to do can be interrupted and argued with but he has a definite aim in view and will know how to get the buyer's attention back to his line. One of the large office appliance companies was among the first to recognize this fact and as a result the canvass made by their men has been thoroughly standardized. The idea is that if there is one best way of presenting their proposition no other way is quite so good. This is exactly the position taken by efficiency experts in shop work and some wonderful results have been secured.

I do not hold the salesmen alone responsible for poor results, but believe the trouble is largely with managements which have failed to realize their responsibility and neglected to plan the sales work and train the men properly. If you will look back at Mr. Taylor's definition you will note that the average sales department transgresses all the rules. What is the remedy?

1st A sincere effort to determine the one best presentation covering each article in the line. This cannot be done in a day, or in a month, but a start can be made and the arguments strengthened from time to time as new points are developed.

2nd A more careful selection of men, so as to be reasonably assured of getting the right man at the start. I figure it costs several hundred dollars to try out a salesman, and if he fails to make good this is a total loss. Of course it is impossible to pick out the right man every time, but if the type of man required were determined in advance there would be less liability of mistakes being made.

3rd A clearer understanding of the uses of advertising. Advertising should be used, not only to bring the product to the attention of the consumer, but to pave the way for the salesman. The man in the field should not be called to do missionary work which can be done by the office to better advantage, but should be free to follow up leads and spend the larger portion of his time selling goods to buyers who have been familiarized with his house and line by preliminary work from the office.

THE COMMERCIAL TRAVELER

First in the crowded car is he to offer—
This traveling man, unhonored and unsung—
The seat he paid for, to some woman, young
Or wrinkled. He is the first to offer
Something—a trifle from his samples, maybe—
To please the fancy of a crying baby.
He lifts the window and he drops the curtain
For unaccustomed hands. He lends his "case"
To make a bolster for a child, not certain
But its mama will frown him in the face;
So anxiously some women seek for danger
In every courteous act of any stranger.
Well versed is he in all the ways conductive
To comfort where least comfort can be found.
His little deeds of thoughtfulness abound;
He turns the seat unasked, yet unobstructive;
Is glad to please you, or to have you please him,
Yet takes it very calmly if you freeze him.
He smoothes the Jove-like frown of the official
By paying the fare of one who cannot pay.
True modesty he knows from artificial;
Will flirt, of course, if you're inclined that way,
And if you are, be sure that he detests you;
And if you're not, be sure that he respects you.
The sorrows of the traveling world distress him;
He never fails to lend what aid he can.
A thousand hearts today have cause to bless him.
This much-abused, misused "commercial man."
I do not seek to cast a halo 'round him,
But speak of him precisely as I've found him.

—*Ella Wheeler Wilcox.*

* *

A farmer in Michigan said that no one could tell him anything about alfalfa because he had tried to grow it and had failed. Did you ever have a salesman tell you that a possible customer was not in the market because he had tried to make a sale to him and had failed? —*The Harvester World.*

"Why did Blinks fail in his photo business?"

"Asked his customers the first thing, whether they wanted photographs or likenesses."

—*Philadelphia Ledger.*

Mrs. Newedd—When we go anywhere now, we have to take the old street car. Before our marriage you always called a taxi.

Newedd—Yes; that's the reason we have to take a street car now.—*Boston Transcript.*

PUBLISHED INFORMATION ON PETROLEUM

E. G. WOODRUFF
Chief Geologist, Producers Oil Company

Many times I have been asked by men in the field, "What books can I get about oil?" In reply to this question I generally refer to the Government publications. Possibly I do this because I wrote some of them and know them better than other books, but I believe an unbiased judge would place such reports at the head of a desirable reliable list. Besides Government publications there are many other books written on the industry in general and on particular phases of it. Men are telling their experiences in oil journals, in bulletins of societies, such as the American Institute of Mining Engineers and others. These reports are on all kinds of subjects; one gives a technical discussion of the use of surveying instruments, another tells how to fire a boiler to secure the best results. One describes the kind of oil which meets Government requirements, another is on the result of experiments with various kinds of mud in drilling wells. They describe the oil fields of the United States, give the production of each state from the beginning, and present maps of pipe lines. There is hardly a subject which has not been considered,—geology, mechanical engineering, civil engineering, drilling, production, and many others. Information is ready for you if you ask for it.

When I tell our men what they can get, they generally respond: "How can I get these books?" If you wish Government publications, write to the Superintendent of Documents, Washington, D. C., and ask for publications on the subject which interests you. Do not be afraid to ask for publications on any subject. Highly trained men and large sums are expended to obtain information for you. Your Congressman or Senator will be glad to help you in the matter. Most of the publications are free. If they are not, you will be told the price, which is generally only a few cents to cover cost of printing. Do you know that you can secure for nothing reports which cost $5,000; or for 10 cents, a copy of a map which cost $4,000? When writing for these reports, ask for a list of Government publications on the subjects which interest you.

Books can be secured at book stores. Of course, they are not kept in stock, but the dealer has long lists from which to choose. Most dealers will secure the books for your examination without charge to you. After examining them, you can either buy or return them.

Copies of special articles can be obtained by writing to the author. The Producers Oil Company has purchased 1,400 copies of various articles and sent them to the field for the consideration of men who cannot obtain good reading matter.

Finally, if you do not obtain what you want, write me.

Agent H. S. Robertson, of our Anniston, Ala. Station, sends the following copy of a poster which is conspicuously placed in the engine room of a cotton mill in his territory. He sends it as giving an idea of how some engineers may feel toward some salesmen:

1. When you enter the engine room spit on the floor; we have water, lye, soap, mops, and brushes, and will clean up as soon as you leave.

2. Talk loud and whistle when we are busy; if it doesn't have the desired effect, sing.

3. Sit in the chair and put your feet on the desk, and if there are any letters read them, as that is what they are written for.

4. Stay in the engine room as long as you please; the Engineer has nothing to do but entertain visitors.

5. Put your hands on all of the polished work; it will give some one work, and surplus polish will then be used.

6. Be sure to tell the Engineer if his engine is pounding or running right, as he will not know unless you do. He will stop and make repairs while you wait.

7. Don't tell the Engineer who you are, as he is a mind reader and always knows you. Go any where in the engine room and you will please him.

8. Advise him what to do, as you know best; the Engineer is only there every day and doesn't have a chance to see as much as you do in an hour.

9. If the Engineer is busy making repairs, tell him a good story you heard the other day and if possible get in his way.

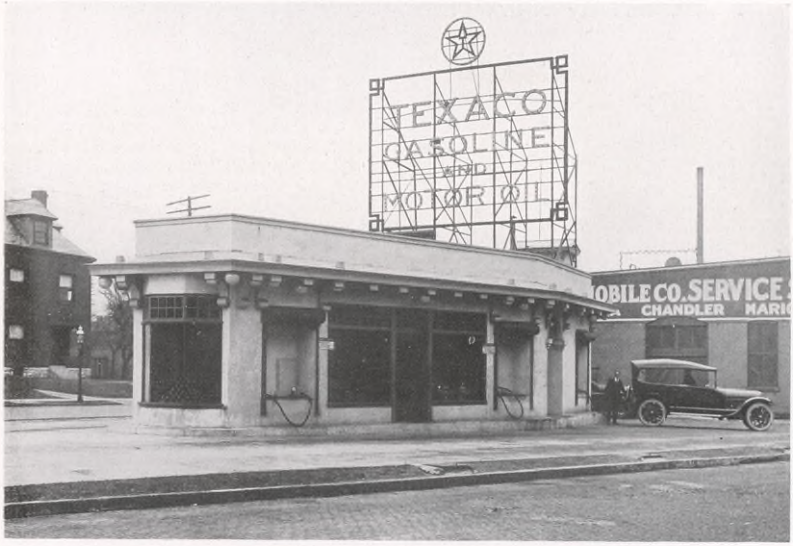
10. Be sure to tell him all you know; it won't take you long.

★ ★

"I understand about the potato's jacket," began the young housewife.

"Yes?"

"But the onion has so much of it that I hardly know where to stop removing the—er—lingerie," she concluded, with a blush.—*The Lanco Tattler.*



Washington Boulevard Filling Station, St. Louis—Hydraulic System of handling gasoline

THE MODERN FILLING STATION

R. A. KNIGHT
Agent Washington Boulevard Refined Station, St. Louis

Several years ago the owner of a motor car was compelled either to keep his supply of gasoline in his garage or to drive to a public garage to have his car filled with gasoline. At the public garage it was necessary to pull into the garage (usually the gasoline supply was located at the rear of the building) and wait several minutes for someone to serve him, as it was not profitable to keep a man especially for that purpose. Then it was necessary to back out the full length of the garage with a bunch of chauffeurs and garage men as a gallery; the driver often became rattled and a broken fender etc. was often the result. If the family of the owner was with him they usually got out of the car before it went into the garage. There were often other objections familiar to all who have tried that method.

A chap in St. Louis was bright enough to see these disadvantages, and the advantages of quick and convenient service, and he resolved to go at the proposition from a different angle. He started on a lot at the corner of Walton and Washington Avenues what was probably the first outdoor gasoline filling station in the United States. A small galvanized iron building was erected, graduated vertical tanks were set on a foundation high enough for the gasoline to drain by gravity into the tank of a motor car. The tanks were filled by a small rotary pump from underground storage. For the first few months business was lean, but the public was quick to see the advantages offered and the business grew. At present in the city of St. Louis there are no less than thirty-five filling stations ranging in cost from $1,000 to $10,000 each, located at convenient points so that a motor car can secure a supply no matter in what part of town it chances to be.

Great care should be exercised in selecting the location of a site for a prospective station, which should by all means be on a street along which there is considerable

Filling Station of Pierce Oil Corporation, St. Louis—Gravity system of handling gasoline

automobile traffic. Accessibility,—that is, a location on which the drives may be without short curves, up-grades, etc. so that machines may be driven in and out with ease,—is highly desirable. Poor judgment in not observing these features often results in the station being a failure. It has also usually been the case that stations connected with garages do not prove as successful as those which are run independently and stand out as a unit by themselves.

There are three distinct methods of handling gasoline in use at the various filling stations in St. Louis: the gravity system, self-measuring pump system, and the hydraulic system.

In the gravity system tanks of capacity to provide ample supply are placed underground. Small vertical tanks of from 100 to 300 gallons capacity are placed high enough to permit drainage by gravity to the automobile. These tanks are usually in batteries of three or four. The gravity tanks are equipped with a gauge glass along the side of which is placed a graduated stick divided in divisions of gallons and one-half-gallons. This stick is moved up or down as occasion demands. The gasoline from the underground tanks is either forced up to the vertical tanks by compressed air or by a small rotary pump. Hose of suitable length and diameter equipped with quick-acting valves are connected to the bottoms of the vertical tanks. With this installation the station attendant is able to perform the operation of filling a car without any assistance from the driver of the car. He can stand at the end of the hose nearest the car's gasoline tank and give the required number of gallons, or fill up the tank to the top if that is desired.

In the second method of handling gasoline, that is by self-measuring pumps, the advantage of one-man operation is not obtained; the station attendant handling pump is obliged to stop and look into gasoline tank of car so that it will not overflow. No accurate account can be kept of gasoline stock when using the first method, and a large shortage will occur if one of the station attendants happens to be dishonest; but with the self-measuring pumps which are equipped with meters registering amount of gasoline, a check can be kept on gasoline sales. The meters on these pumps, however, register when the handle of the pump is turned irrespective of whether gasoline is passing through the pump, and this means that with leaky valves customers get short measure. Again, there is considerable labor attached to turning one of these pumps, especially when the sales run high and it is necessary to wait on 300 to 500 cars a day.

The equipment of our Washington Boulevard Filling Station was originally of the gravity type. Last year this was discarded in favor of the hydraulic system, which is now in use at both the Lindell Boulevard and Washington Boulevard Stations. This installation has all the advantages of both the gravity and the pump systems and none of their disadvantages. One attendant can successfully take care of a car by himself; all that is necessary is for the boy to place the gasoline nozzle in the tank and open the quick acting valve. An accurate check can be kept of all gasoline sold as it all flows through a self-registering meter which registers only the amount of liquid passing through it. The meter, which is equipped with a dial and hand as on a clock, is placed so that the purchaser may readily see that he is getting correct measure. These meters are inspected and sealed by the Inspector of Weights and Measures of the city. By this arrangement the customer can see that he is getting correct measure at all times. This is very desirable, as nothing will so quickly give a station a "black-eye" as suspicions of short measure.

Free air for tires is furnished at all our stations. A tire gauge should always be available so that the customer can tell that he is putting the correct pressure into

Gibbs-Brown Filling Station, St. Louis—Self-measuring pump system of handling gasoline

his tires. A blown out tire due to the lack of suitable air gauge often results in the loss of a customer. It would seem a logical suggestion to have equipment for taking air at the street curb and allow the customer to take his own air, thereby utilizing the employe for other work and causing the customer to accept all responsibility.

Motor Oils of the various grades are kept at the station in tanks equipped with large faucets, so that prompt service may be given when motor oil is desired. In addition, a complete line of Cup Grease, Motor Oils in packages, Metal Polish, etc. is kept on hand at all times.

It is very essential that an accurate accounting be kept of gasoline and all products carried in stock. An inventory of all stock is carefully taken the first of each month and all variations must be fully explained.

As a large number of charge accounts are carried it is necessary that the boys at the stations be entirely familiar with each and every one, so that no mix-ups occur or bad accounts be sold. Each credit sale has to be recorded on the regular tank wagon book and signed for by the purchaser. These in turn are invoiced and sent to the Accounting department for attention. The total sales of gasoline for each day should always agree with the meter readings which are taken at the opening and closing of each day's business. This feature is watched very closely and the total variations on each day's business rarely exceed one gallon. A card system of all charge accounts is kept and all credit purchases are kept posted daily, so that we are able to follow accounts up closely and see that no business gets away from us.

The carrying of charge accounts entails a large amount of clerical work both at the filling station and in the accounting office, and there is always the percentage of bad accounts in which no collections can be effected. A business of this nature is much more desirable on a cash basis. Several months ago one of the largest companies in town operating gasoline filling stations put its business on a strictly C. O. D. basis. The Texas Company on Feb. 1 also turned all filling station sales to a cash and cash coupon book basis. Coupon books of $10.00 and $20.00 are sold to consumers at 5% discount for cash. This discount is an incentive to the customer to pay cash for his gasoline and oils as it enables him to effect a considerable saving. The coupon book is also a convenience to all consumers and a protection to those who leave the matter of purchasing to their chauffeurs. The elimination of bad accounts and cost of bookkeeping and collecting reduces the cost of distribution and thus ultimately benefits the consumer.

In view of the modern up-to-date filling station, is it any wonder that the tank at the residence and public garage is falling into disuse? What could be more desirable than to drive up to The Texas Company's Washington Boulevard Station on smooth concrete drive, have a pleasant young man step out to your machine before the wheels of your car stop rolling and rapidly fill your car with Texaco Auto Gasoline and Motor Oil, hand you your change immediately, and send you on your way rejoicing with the service that only Texaco products can give.

PETROLEUM STATISTICS

The statistics given in the tables printed on the next three pages are of permanent value; they may be frequently convenient for reference. To the end of 1914 they are final figures of the U. S. Geological Survey, made from exhaustive and impartial records. Final compilations for 1915 have not yet been completed, but the figures given are close estimates. The Survey's latest annual report uses the term "marketed production," instead of "production" used hitherto, as being a more nearly precise term for the facts recorded; neither is quite exact, because oil consumed by producers for operating purposes (a very small quantity comparatively) is included with the oil sold by the producers. Producers' field storage is not included in the "marketed production," but in normal years there is no substantial difference between total production and marketed production. "In normal years producers' field storage is a constant quantity and can be disregarded;" because the storage at the end of each year is marketed during the ensuing year. But 1914 and 1915 were extraordinary years and producers' field storage was an appreciable factor; *it was greater, however, at end of* 1914 *than at end of* 1915 by more than 600,000 bbls.:

Bbls. of 42 Gals.	1914	1915
Marketed production	265,762,535	267,400,000
Producers' field storage	24,637,465	24,000,000
Total output	290,400,000	291,400,000

The Secretary of the Interior, in answering a recent interrogatory from the U. S. Senate, gives the following statistics concerning the amount of gasoline consumed in the United States in each of the years mentioned. He explains that the difference between the amount produced and the amount exported represents domestic consumption, except that the gasoline stocks at the end of the year are not taken into account; but, with reference to the future, he adds the significant statement that at the end of 1914 there were 2,000,000 barrels of gasoline stocks in storage, and at the end of 1915 gasoline storage stocks were "practically exhausted:"

Gasoline in barrels of 42 gallons

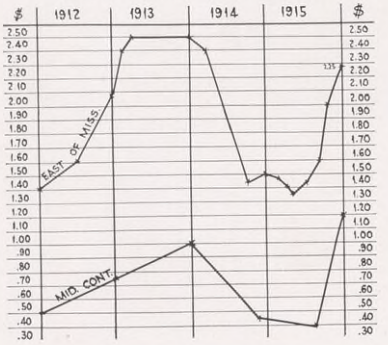
Year	Production	Exported	Difference
1899	6,680,000	297,000	6,383,000
1904	6,920,000	594,000	6,326,000
1909	12,900,000	1,640,000	11,260,000
1914	34,915,000	5,000,000	29,915,000
1915	41,600,000	6,500,000	35,100,000

Exports of Petroleum Products

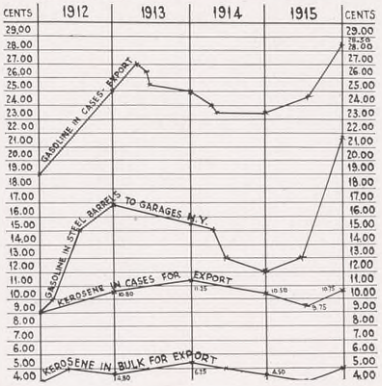
Gallons	1913	1914	1915
Crude	194,469,634	124,735,553	158,263,000
Gas and fuel oil	359,009,373	634,298,621	799,646,000
Residuum (tar, pitch, etc.)	67,863,000	69,210,000	12,616,000
Lubricating	207,639,092	191,647,570	239,719,000
Illuminating	1,119,441,243	1,010,449,253	836,998,000
Gasoline and naphthas	188,043,379	209,692,655	282,330,000
Total gallons	2,136,465,721	2,240,033,652	2,329,572,000*

*This table, partly analyzed from the *Journal of Commerce*, uses zeros for the last three figures of the last column; 2,329,575,617 gallons is the precise total given by the government.

CRUDE PRICES AT WELLS 1912-1915
EAST OF MISS. AND MID-CONTINENT



GASOLINE AND KEROSENE PRICES 1912-1915



World's marketed production of crude petroleum, 1857-

Year.	Roumania.	U. S. A.	Italy.	Canada.	Russia.	Galicia.	Japan‡	Germany.
1857	1,977	.....	.....	.....	.....	.....	.....	.....
1858	3,500	.....	.....	.....	.....	.....	.....	.....
1859	4,349	2,000	.....	.....	.....	.....	.....	.....
1860	8,542	500,000	36	.....	.....	.....	.....	.....
1861	17,279	2,113,009	29	.....	.....	.....	.....	.....
1862	23,198	3,056,690	29	11,775	.....	.....	.....	.....
1863	27,943	2,611,309	58	82,814	40,816	.....	.....	.....
1864	33,013	2,116,109	72	90,000	64,586	.....	.....	.....
1865	39,017	2,497,700	2,265	110,000	66,542	.....	.....	.....
1866	42,534	3,597,700	992	175,000	83,052	.....	.....	.....
1867	50,838	3,347,300	791	190,000	119,917	.....	.....	.....
1868	55,369	3,646,117	367	200,000	88,327	.....	.....	.....
1869	58,533	4,215,000	144	220,000	202,308	.....	.....	.....
1870	83,765	5,260,745	86	250,000	204,618	.....	.....	.....
1871	90,030	5,205,234	273	269,397	165,129	.....	.....	.....
1872	91,251	6,293,194	331	308,100	184,391	.....	.....	.....
1873	104,036	9,893,786	467	365,052	474,379	.....	.....	.....
1874	103,177	10,926,945	604	168,807	583,751	149,837	.....	.....
1875	108,569	8,787,514	813	220,000	697,364	158,522	4,566	.....
1876	111,314	9,132,669	2,891	312,000	1,320,528	164,157	7,708	.....
1877	108,569	13,350,363	2,934	312,000	1,800,720	169,792	9,560	.....
1878	109,300	15,396,868	4,329	312,000	2,400,960	175,420	17,884	.....
1879	110,007	19,914,146	2,891	575,000	2,761,104	214,800	23,457	.....
1879	110,007	19,914,146	2,891	575,000	2,761,104	214,800	23,457	.....
1880	114,321	26,286,123	2,035	350,000	3,001,200	229,120	25,497	9,310
1881	121,511	27,661,238	1,237	275,000	3,601,441	286,400	16,751	29,219
1882	136,610	30,349,897	1,316	275,000	4,537,815	330,076	15,549	58,025
1883	139,486	23,449,633	1,618	250,000	6,002,401	365,160	20,473	26,708
1884	210,667	24,218,438	2,855	250,000	10,804,577	408,120	27,923	46,161
1885	193,411	21,858,785	1,941	250,000	13,924,596	465,400	29,237	41,360
1886	168,606	28,064,841	1,575	584,061	18,006,407	305,884	37,916	73,864
1887	181,907	28,283,483	1,496	525,655	18,367,781	343,832	28,645	74,284
1888	218,576	27,612,025	1,251	695,203	23,048,787	466,537	37,436	84,782
1889	297,666	35,163,513	1,273	704,690	24,609,407	515,268	52,811	68,217
1890	383,227	45,823,572	2,998	795,030	28,691,218	659,012	51,420	108,296
1891	488,201	54,292,655	8,305	755,298	34,573,181	630,730	52,917	108,929
1892	593,175	50,514,657	18,321	779,753	35,774,504	646,220	68,901	101,404
1893	535,655	48,431,066	19,069	798,406	40,456,519	692,669	106,384	99,390
1894	507,255	49,344,516	20,552	829,104	36,375,428	940,146	171,744	122,564
1895	575,200	52,892,276	25,843	726,138	46,140,174	1,452,999	141,310	121,277
1896	543,348	60,960,361	18,149	726,822	47,220,633	2,443,080	197,082	145,061
1897	570,886	60,475,516	13,892	709,857	54,399,568	2,226,368	218,559	165,745
1898	776,238	55,364,233	14,489	758,391	61,609,357	2,376,108	265,389	183,427
1899	1,425,777	57,070,850	16,121	808,570	65,954,968	2,313,047	536,079	192,232
1900	1,628,535	63,620,529	12,102	913,498	75,779,417	2,346,505	866,814	358,297
1901	1,678,320	69,389,194	16,150	756,679	85,168,556	3,251,544	1,110,790	313,630
1902	2,059,935	88,766,916	18,933	530,624	80,540,044	4,142,159	1,193,038	353,674
1903	2,763,117	100,461,337	17,876	486,637	75,591,256	5,234,475	1,209,371	445,818
1904	3,599,026	117,080,960	25,476	552,575	78,536,655	5,947,383	1,419,473	637,431
1905	4,420,987	134,717,580	44,027	634,095	54,960,270	5,765,317	1,472,804	560,963
1906	6,378,184	126,493,936	53,577	569,753	58,897,311	5,467,967	1,710,768	578,610
1907	8,118,207	166,095,335	59,875	788,872	61,850,734	8,455,841	2,001,838	756,631
1908	8,252,157	178,527,355	50,966	527,987	62,186,447	12,612,295	2,070,145	1,009,278
1909	9,327,278	183,170,874	42,388	420,755	65,970,350	14,932,799	1,889,563	1,018,837
1910	9,723,806	209,557,248	50,830	315,895	70,336,574	12,673,688	1,930,661	1,032,522
1911	11,107,450	220,449,391	74,709	291,096	66,183,691	10,519,270	1,658,903	1,017,045
1912	12,976,232	222,935,044	53,778	243,336	68,019,208	8,535,174	1,671,405	1,031,050
1913	13,554,768	248,446,230	47,256	228,080	62,834,356	7,818,130	1,942,009	*a*995,764
1914	12,826,579	265,762,535	*a*39,548	214,805	67,020,522	*a*5,033,350	2,738,378	*a*995,764
1915*	15,000,000	267,400,000	50,000	250,000	72,000,000	9,000,000	2,800,000	900,000
Total	132,982,474	3,602,857,140	852,229	23,743,610	1,694,233,845	139,873,601	29,851,158	13,865,569

*Estimates. ‡and Formosa. *a*Estimated.

1915 by years and by countries, in barrels of 42 gallons

India.	Dutch E. Ind.	Peru.	Mexico.	Trinidad.	Egypt.	All other.	Total.	Year.
.....	.....	.....	.....	.....	.....	.....	1,977	1857
.....	.....	.....	.....	.....	.....	.....	3,560	1858
.....	.....	.....	.....	.....	.....	.....	6,349	1859
.....	.....	.....	.....	.....	.....	.....	508,578	1860
.....	.....	.....	.....	.....	.....	.....	2,130,917	1861
.....	.....	.....	.....	.....	.....	.....	3,091,692	1862
.....	.....	.....	.....	.....	.....	.....	2,762,940	1863
.....	.....	.....	.....	.....	.....	.....	2,303,780	1864
.....	.....	.....	.....	.....	.....	.....	2,715,524	1865
.....	.....	.....	.....	.....	.....	.....	3,899,278	1866
.....	.....	.....	.....	.....	.....	.....	3,708,846	1867
.....	.....	.....	.....	.....	.....	.....	3,990,180	1868
.....	.....	.....	.....	.....	.....	.....	4,695,985	1869
.....	.....	.....	.....	.....	.....	.....	5,799,214	1870
.....	.....	.....	.....	.....	.....	.....	5,730,063	1871
.....	.....	.....	.....	.....	.....	.....	6,877,267	1872
.....	.....	.....	.....	.....	.....	.....	10,837,720	1873
.....	.....	.....	.....	.....	.....	.....	11,933,121	1874
.....	.....	.....	.....	.....	.....	.....	9,977,348	1875
.....	.....	.....	.....	.....	.....	.....	11,051,267	1876
.....	.....	.....	.....	.....	.....	.....	15,753,938	1877
.....	.....	.....	.....	.....	.....	.....	18,416,761	1878
.....	.....	.....	.....	.....	.....	.....	23,601,405	1879
.....	.....	.....	.....	.....	.....	.....	30,017,606	1880
.....	.....	.....	.....	.....	.....	.....	31,992,797	1881
.....	.....	.....	.....	.....	.....	.....	35,704,288	1882
.....	.....	.....	.....	.....	.....	.....	30,255,479	1883
.....	.....	.....	.....	.....	.....	.....	35,968,741	1884
.....	.....	.....	.....	.....	.....	.....	36,764,730	1885
.....	.....	.....	.....	.....	.....	.....	47,243,154	1886
.....	.....	.....	.....	.....	.....	.....	47,807,083	1887
.....	.....	.....	.....	.....	.....	.....	52,164,597	1888
94,250	.....	.....	.....	.....	.....	.....	61,507,095	1889
118,065	.....	.....	.....	.....	.....	.....	76,632,838	1890
190,131	.....	.....	.....	.....	.....	.....	91,100,347	1891
242,284	.....	.....	.....	.....	.....	.....	88,739,219	1892
298,969	600,000	.....	.....	.....	.....	.....	92,038,127	1893
327,218	688,170	.....	.....	.....	.....	.....	89,335,697	1894
371,536	1,215,757	.....	.....	.....	.....	.....	103,662,510	1895
429,979	1,427,132	47,536	.....	.....	.....	.....	114,159,183	1896
545,704	2,551,649	70,831	.....	.....	.....	.....	121,948,575	1897
542,110	2,964,035	70,905	.....	.....	.....	.....	124,924,682	1898
940,971	1,795,961	89,166	.....	.....	.....	.....	131,143,742	1899
1,078,264	2,253,355	274,800	.....	.....	.....	.....	149,132,116	1900
1,430,716	4,013,710	274,800	.....	.....	.....	*a*20,000	167,424,089	1901
1,617,363	2,430,465	286,725	.....	.....	.....	*a*26,000	181,965,876	1902
2,510,259	5,770,056	278,092	.....	.....	.....	*a*36,000	194,804,294	1903
3,385,468	6,508,485	345,834	220,653	.....	.....	*a*40,000	218,299,419	1904
4,137,098	7,849,896	447,880	320,379	.....	.....	*a*30,000	215,361,296	1905
4,015,803	8,180,657	536,294	1,097,264	.....	.....	*a*30,000	214,010,124	1906
4,344,162	9,982,597	756,226	1,717,690	.....	.....	*a*30,000	264,958,008	1907
5,047,038	10,283,357	1,011,180	3,481,610	169	.....	*a*30,000	285,089,984	1908
6,676,517	11,041,852	1,316,118	2,488,742	57,143	.....	*a*20,000	298,373,216	1909
6,137,990	11,030,620	1,330,105	3,332,807	142,857	.....	*a*20,000	327,615,603	1910
6,451,203	12,172,949	1,368,274	14,051,643	285,307	9,150	*a*45,000	345,685,081	1911
7,116,672	10,845,624	1,751,143	16,558,215	436,805	205,905	*a*105,000	352,484,591	1912
7,930,149	11,966,857	2,133,261	25,902,439	503,616	94,635	*a*270,000	384,667,550	1913
*a*8,000,000	*b*12,705,208	1,917,802	21,188,427	643,533	777,038	*c*620,000	400,483,489	1914
8,500,000	12,800,000	3,500,000	35,500,000	700,000	800,000	1,500,000	430,700,000	1915
82,479,919	151,078,392	17,806,972	125,859,869	2,769,430	1,886,728	1,822,000	6,023,962,936 bbls.	

b Includes British Borneo. *c* Includes 600,000 barrels produced in Argentina.

Marketed production of petroleum in the United States since production began outside of Pennsylvania and New York, 1876-1915, by years and by States, in barrels of 42 gallons

Year	Pa. & N. Y.	Ohio	W. Va.	California	Ky. and Tenn.	Colorado	Indiana	Illinois	Kansas	Texas	Mo.	Oklahoma	Wyo.	Louisiana	U. S.	Total Value
1876	8,968,906	31,763	120,000	12,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,132,669	$22,982,822
1877	13,135,475	29,888	172,000	13,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13,350,363	31,788,566
1878	15,163,462	38,179	180,000	15,227	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15,396,868	18,044,520
1879	19,685,176	29,112	180,000	19,858	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19,914,146	17,210,708
1880	26,027,631	38,940	179,000	40,552	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26,286,123	24,600,638
1881	27,376,509	33,867	151,000	99,862	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27,661,238	23,512,051
1882	30,053,500	39,761	128,000	128,636	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30,349,897	23,631,165
1883	23,128,389	47,632	126,000	142,857	4,755	.....	.....	.....	.....	.....	.....	.....	.....	.....	23,449,633	25,740,252
1884	23,772,209	90,081	180,000	262,000	4,148	.....	.....	.....	.....	.....	.....	.....	.....	.....	24,218,438	20,476,924
1885	20,776,041	661,580	91,000	325,000	5,164	.....	.....	.....	.....	.....	.....	.....	.....	.....	21,858,785	19,193,694
1886	25,798,000	1,782,970	102,000	377,145	4,726	.....	.....	.....	.....	.....	.....	.....	.....	.....	28,064,841	20,028,457
1887	22,356,193	5,022,632	145,000	678,572	4,791	76,295	.....	.....	.....	.....	.....	.....	.....	.....	28,283,483	18,856,606
1888	16,488,668	10,010,868	119,448	690,333	5,096	297,612	.....	.....	.....	.....	.....	.....	.....	.....	27,612,025	17,950,353
1889	21,487,435	12,471,466	544,113	303,220	5,400	316,476	33,375	1,460	500	48	20	.....	.....	.....	35,163,513	26,963,340
1890	28,458,208	16,124,656	492,578	307,360	6,000	368,842	63,496	900	1,200	54	278	.....	.....	.....	45,823,572	35,365,105
1891	33,009,236	17,740,301	2,406,218	323,600	9,000	665,482	136,634	675	1,400	54	25	30	.....	.....	54,292,655	30,526,553
1892	28,422,377	16,362,921	3,810,086	385,049	6,500	824,000	698,068	521	5,000	45	10	80	.....	.....	50,514,657	25,906,463
1893	20,314,513	16,249,769	8,445,412	470,179	3,000	594,390	2,335,293	400	18,000	50	50	10	.....	.....	48,431,066	28,950,326
1894	19,019,990	16,792,154	8,577,624	705,969	1,500	515,746	3,688,666	300	40,000	60	8	130	2,369	.....	49,344,516	35,522,095
1895	19,114,390	19,545,233	8,120,125	1,208,482	1,500	438,232	4,386,132	200	44,430	50	10	37	3,455	.....	52,892,276	57,632,296
1896	20,584,421	23,941,169	10,019,770	1,252,777	1,680	361,450	4,680,732	250	113,571	1,450	43	170	2,878	.....	60,960,361	58,518,709
1897	19,262,066	21,560,515	13,090,045	1,903,411	322	384,934	4,122,356	500	81,098	65,975	19	625	3,650	.....	60,475,516	40,874,072
1898	15,948,464	18,738,708	13,615,101	2,257,207	5,568	444,383	3,730,907	360	71,980	546,070	10	.....	5,475	.....	55,364,233	44,193,359
1899	14,374,512	21,142,108	13,910,630	2,642,095	18,280	390,278	3,848,182	360	69,700	669,013	132	.....	5,560	.....	57,070,850	64,603,904
1900	14,559,127	22,362,730	16,195,675	4,324,484	62,259	317,385	4,874,392	200	74,714	836,039	*a*1,602	6,472	5,450	.....	63,620,529	75,989,313
1901	13,831,996	21,648,083	14,177,126	8,786,330	137,259	460,520	5,757,086	250	179,151	4,393,658	*a*2,335	10,000	5,400	.....	69,389,194	66,417,334
1902	13,183,610	21,014,231	13,513,345	13,984,268	185,331	396,901	7,480,896	200	331,749	18,083,658	*a*757	37,100	6,253	548,617	88,766,916	71,178,910
1903	12,518,134	20,480,286	12,899,395	24,382,472	554,286	483,925	9,186,411	.....	932,214	17,955,572	*a*3,000	138,911	8,960	917,771	100,461,337	94,694,050
1904	12,239,026	18,876,631	12,644,686	29,649,434	998,284	501,763	11,339,124	.....	4,250,779	22,241,413	*a*2,572	1,366,748	11,542	2,958,958	117,080,960	101,175,455
1905	11,554,777	16,346,660	11,578,110	33,427,473	1,217,337	376,238	10,964,247	181,084	*b*12,013,495	28,136,189	*a*3,100	(*c*)	8,454	8,910,416	134,717,580	84,157,399
1906	11,500,410	14,787,763	10,120,935	33,098,598	1,213,548	327,582	7,673,477	4,397,050	*b*21,718,648	12,567,897	*a*3,500	(*c*)	*d*7,000	9,077,528	126,493,936	92,444,735
1907	11,211,606	12,207,448	9,095,296	39,748,375	820,844	331,851	5,128,037	24,281,973	2,409,521	12,322,696	*a*4,000	43,524,128	*e*9,339	5,000,221	166,095,335	120,106,749
1908	10,584,453	10,858,797	9,523,176	44,854,737	*f*727,767	379,653	3,283,629	33,686,238	1,801,781	11,206,464	*a*15,246	45,798,765	*e*17,775	5,788,874	178,527,355	129,079,184
1909	10,434,300	10,632,793	10,745,092	55,471,601	*f*639,016	310,861	2,296,086	30,898,339	1,263,764	9,534,467	*a*5,750	47,859,218	*e*20,056	3,059,531	183,170,874	128,328,487
1910	9,848,500	9,916,370	11,753,071	73,010,560	*f*468,774	239,794	2,159,725	33,143,362	1,128,668	8,899,266	*a*3,615	52,028,718	*e*115,430	6,841,395	209,557,248	129,899,688
1911	9,200,673	8,817,112	9,795,464	81,134,391	*f*472,458	226,926	1,695,289	31,317,038	1,278,819	9,526,474	*a*7,995	56,069,637	*e*186,695	10,720,420	220,449,391	134,044,752
1912	8,712,076	*a*8,969,007	12,128,962	*c*87,272,593	*f*484,368	206,052	970,009	28,601,308	1,592,796	11,735,057	(*h*)	51,427,071	1,572,306	9,263,439	222,935,044	164,213,247
1913	8,865,493	8,781,468	11,567,299	97,788,525	*f*524,568	188,799	956,095	23,893,899	2,375,029	15,009,478	*i*10,843	63,579,384	2,406,522	12,498,828	248,446,230	237,121,388
1914	9,109,309	8,536,352	9,680,033	99,775,327	*f*502,441	222,773	1,335,456	21,919,749	3,103,585	20,068,184	*j*7,792	73,631,724	3,560,375	14,309,435	265,762,535	214,125,215
1915*	*k*9,600,000	7,900,000	9,000,000	89,000,000	*f*450,000	200,000	1,000,000	18,500,000	3,000,000	26,000,000	*m*50,000	80,000,000	4,200,000	18,500,000	267,400,000	225,000,000
Total	763,780,213	440,662,004	269,232,815	830,273,559	9,545,970	10,849,143	103,823,800	251,826,616	57,901,592	229,799,381	122,712	515,478,958	12,164,944	108,395,433	3,602,857,140	3,014,829,745

* Estimates.

a Includes the production of Michigan.

b Includes the production of Oklahoma.

c Included with Kansas.

d Estimated.

e Includes production of Utah.

f No production in Tennessee recorded.

g Includes small production of Alaska.

h No Production in Missouri; Michigan included in Ohio.

i Includes production of Alaska, Michigan, and New Mexico

j Includes production of Alaska and Michigan.

k Pa. 8,700,000; N. Y. 900,000.

m "Other States."

SAFETY AND SANITATION

ST. C. B. BYRNE
Chairman Central Committee of Safety

The wide and varied interest that is being manifested in the "Safety First" movement is well illustrated by a sermon delivered Sunday evening, March 5, 1916, by Rev. Ernest Daily Smith, pastor of the First Methodist Church of Port Arthur, Texas, who, as partially reported in the *Beaumont Enterprise*, spoke as follows:

It has been said that the factors with which the business man has to do are represented by the five M'S—money, materials, merchandise, machinery, men.

"Safety First" has to do with machinery and men. The author of that catchy slogan is not known, but the idea which it represents, like many other things in modern life, was "made in Germany." There the principle has had a history of some 25 years. Its propagation in this country is more recent. Here it has struggled forward for the past 10 or 12 years.

In the 19th century the international watchword was "efficiency." The slogan of the 20th century is "safety." That safety supplanted efficiency as the watchword of modern industry is a mark of real progress, and it is prophetic of even greater gain to be made in the future.

I feel entirely justified in turning aside from the usual procedure of church service to give attention for one evening to this vital subject. "Safety First" is of general interest. Its effects are realized beyond the pale of the shop or factory in which safety devices abound. It affects the families of a community. If a man is killed by an accident in the refinery tomorrow, the company will replace him the next day and its work will go on as if nothing had happened. But if he is a husband or a father or the support of his mother his place in the family can not be filled. Moreover, accidents affect general economy. They involve expense to the employer in time lost in filling vacancies—often in litigation, and generally in compensation. Such expense is added to the cost of production and added to the market price of the product. It is, therefore, paid in the end by the consumer. Accidents affect the cost of living.

"Safety First" as a principle is amply justified by its history. Figures produced by the National Safety Council show that by the application of "safety first" principles accidents have been reduced from 88 to 22 per cent. It is also good economy.

A campaign of education is now on and while much has been accomplished, much yet remains to be done. It is estimated that 50% of the accidents that occur are preventable. Then who is it that does not prevent them? It is the tardy employer who is indifferent in recognizing the value of safety principles and fails to install safety devices. Another hindrance to the advancement of safety is the indifference of the careless employe. It is stated that from 80 to 90 percent of accidents are directly traceable to the one cause—carelessness. Against carelessness no safety device is proof.

But safety principles apply outside the factory. As life has become complex and strenuous it has also become dangerous. We are beset by a thousand perils that our grandfathers were strangers to. There is danger in crossing a street or a car track or a railroad track. Fires are frequent, automobile accidents are numerous. A drunken or reckless chauffeur imperils life on the road. We can all take care. "What I say unto you, I say unto all: Watch!"

* *

On February 22 and 23 at Port Arthur, and on February 25 at our West Dallas Works, Committee Chairman Byrne exhibited picture slides and moving films illustrating the importance of preventing accidents in industrial work and the necessity of carefulness on the part of all workers. The views were different from those shown last year, and held the lively interest of large audiences. The afternoon audiences were mostly the wives, daughters, and children of the men in the works; in the evening mainly the men themselves. Introductory to the picture show and comments thereon, Mr. Byrne made a brief talk, in part as follows:

No system is effective in preventing accidents which is not of a nature to secure the fullest cooperation of both employer and employe. You are assured of our co-operation, as we are at all times willing and ready to "go the limit" for your safety. Therefore, should you at any time discover an unsafe condition, tell the Safety Men about it that they may get to work and make it safe.

During the year 1914, in the Refining Department, the records show 1,313 accidents to employes, and the loss of 4,656 days; during the year 1915, 3,806 accidents, causing loss of 6,205 days. While the number of accidents *per men employed* increased 92%, the number of days lost decreased 12%. From these records we infer, (1) that a greater number of minor injuries are being reported, and that at least 85% of the accidents were caused by carelessness; (2) that the decrease in the number of days lost *per men employed* was due to prompt first aid and medical attention, and to the fact that your occupations have been rendered less hazardous by our having installed proper safeguards.

As our records indicate that there are a number of very careless men in the organization, it seems necessary that they be known; so, with this in view, we have inaugurated a system of recording accidents which will show who the careless ones are. . . .

During the year 1914 the approximate number of days lost as a result of the 3,625,000 industrial accidents in this country causing a loss of more than one day, amounted to 355,000,000 days. Such an economic loss is tremendous, and as society at large bears this loss it affects every one of us. It might be of interest to compare this accident loss with the $375,000,000 expended in constructing the Panama Canal, which, I believe, is the most stupendous and expensive single undertaking in history.

I have heard it said, and I feel sure it is true, that much of our Company's success is due to the untiring devotion and energy of a great many loyal and efficient employes. So we hope that those who

have been careless will learn to do things in the safe way; that there may be less suffering; that you may enjoy more of the true pleasures of life, and, therefore, be much happier.

Now, for medical attention: Should any of you get hurt—no matter how slightly—report to your Foreman, that he may arrange for immediate treatment. Authorities agree, and are very emphatic on the point, that immediate attention to all injuries saves much suffering, many lives and limbs, and a great deal of money.

The message carried by the lantern slides and motion pictures which you will shortly see, is simply that of being careful; or if you like, of always doing things in the right way. The right way means the safe way, and the safe way depends entirely upon our thinking about what we are doing.

As I have said, most accidents are due to carelessness. Even a moment's forgetfulness may cost a life or a limb. Being careful becomes a habit, and I am sure you cannot cultivate any better habit than this. The man who is careful of himself will be careful for the safety of others, and that means a great deal. *Safety* pays big dividends in the shape of whole bodies and clear brains; and that makes for happiness.

I trust all of you will pay close attention to the pictures and that you will firmly resolve to make *Safety* a part of your daily life, and keep constantly in mind the two little words—*Be Careful.*

* *

The Mayor of Philadelphia recently made the following statement, as reported in the newspapers:

My orders to the heads of all departments are to suspend from duty, without pay, any employe found using liquor while at work, or found to be under the influence of liquor while at work, or showing any evidence whatever of having used liquor while on duty. The suspension is equivalent to dismissal where the facts warrant such action.

EFFICIENCY

P. C. SCULLIN
Chairman Refining Dept. Efficiency Committee

From an Address by President E. M. Herr, Westinghouse Electric & Mfg. Co.:

When we consider and analyze the organization of a great industry, it is clear that it is only by the proper co-operation and organization of men of power and ability, both in executives and workmen of all kinds, that success is attained. . . .

Professor Scott, of Yale, who has had much to do with the training of technical men, says: "A study of individuals in most organizations will reveal the fact that human efficiency is very low; that there is a lack of incentive; that there is misapplied effort; that time is lost and little is accomplished through indisposition and lack of incentive. A little better judgment, a little better ability, a little higher intelligence would double or treble the productiveness of most men. How to bring out this, how to develop the individual and improve the environment which surrounds him is the large problem in industry."

The efficiency in men generally cannot be raised appreciably by doing things only in the nature of general welfare work, or for the encouragement and greater comfort of the individual, good as is work of this kind. To measure up to the responsibilities and opportunities before us in the line of man-building, we must do what is more important and more difficult, encourage and train men to grow by willingly undertaking to overcome difficulties.

Who is competent and measures up to the ability required to shoulder great responsibilities and execute difficult duties? Only men thoroughly trained and schooled in gradually overcoming greater obstacles, and who have in this way grown strong and are able to take up burdens larger than before and carry them through a successful conclusion. . . .

Great knowledge and learning will not alone suffice, for, if they would, we should see the great scholars bearing the greatest responsibilities. . . . Experience and a broad contact with affairs is not all that is required, for many men of the widest experience and who have been in touch with world-wide affairs are ineffective and almost impotent in taking up great responsibilities depending upon their own efforts and decisions.

The men who do great deeds are those who have been again and again tried in the stress and strain of hardships and difficulties, perhaps in an entirely inconspicuous way, but who have worked through, never shirking, and have willingly taken up greater and greater burdens as they came to their hands, being most concerned, not with the immediate rewards to be gained, but with the feeling that progress was being made in the work given to their hands; and that they had succeeded in their immediate task, with the result that their character, knowledge, training, and, more important still, their courage and tenacity were strengthened for overcoming still greater difficulties and bearing more and larger responsibilities.

It is, I believe, rare that the individual, while going through this process of train

ing and development which I like to call "man building," is aware of the result of his efforts; but his innate strength of character, tenacity of purpose, and courage carry him through, and incidentally and generally unconsciously he grows in strength and ability. . . .

Do not make the mistake of thinking the knowledge of the business is the important thing in the training of the employe. His fitness to grow depends much more on his ability to do things well, whatever the task, and also on his general character and trustworthiness. With these qualities developed, he can easily get acquainted with any required business detail.

Are we arranging for the kind of training that will properly bring about this kind of development in our employes? . . .

Gradually encouraging men to undertake more and more difficult work, leaving them to work out the difficulties, but at the same time directing and guiding them in a way not too helpful, is good and beneficial. Helping in the wrong way, that is to the extent of practically doing the task for the man, only weakens him, and instead of his being strengthened and benefited by the discipline and exertion of overcoming the obstacle in his path, he is actually left by your ill-advised help a weaker and less able member of the organization.

Train men to work for the satisfaction of accomplishment rather than the expectation of immediate reward. They can be sure of reward, and a rich one will surely come to him who can and does excel his fellows in doing things, no matter how burdensome or onerous, provided they are worthy, and especially if such excellence is in work or methods more difficult than usually encountered. The reward may not come when expected—it may even be delayed until the worker feels great discouragement and can see no prospect of the recognition and reward he knows he has justly earned.

Here courage and steadfastness are required, for the road seems dark, and progress and reward not even in prospect. Being steadfast under these conditions is in itself discipline and helpful toward the highest attainment, and one is surely building for highest manhood who can attain it.

In addition to this, experience shows that reward for unusual and successful efforts must come, and, if deferred, as it often is, by uncontrollable circumstances, it will ultimately be paid with interest well compounded.

We have now in this country, I believe, a most remarkable opportunity for industrial and commercial development. What the grasping of this opportunity requires is a large number of men well trained in our various lines. Have we these men available? Have we been building them for our country's future needs? If not, their development is now of the most vital importance. We can no longer depend upon the very wasteful and inefficient method of the haphazard development of young men employed without regard to their capacity to grow and develop.

We know the standards required in industry and commerce, and must now address ourselves to systematically providing for, first, judging the capabilities of our people, and second, providing the lines of their best capabilities. . . .

The development of man-building in an organization is necessarily slow and filled with difficulties. Its importance is great, as any organization which cannot practically perpetuate itself internally is weak, and in an unsafe position.

KEEP YOUR GRIT

Hang on, cling on, no matter what they say,
Push on, sing on; things will come your way.
Sitting down and whining never helps a bit,
The best way to get there is keeping up your grit;
Don't give up hoping when the ship goes down,
Grab a spar or something, just refuse to drown;
Don't think you're dying just because you're hit,
Smile in face of danger and hang to your grit.
Folks die too easy—they sort of fade away,
Make a little error and give up in dismay.
The kind of man that's needed is the man of ready wit
To laugh at pain and trouble and still keep his grit.
—*John Wall, Foreman Cooper, Norfolk Terminal.*

It is a hard law but an old one—Rome died learning it, as our Western civilization may die—that if you give any man anything that he has not painfully earned for himself, you infallibly make him or his descendants your devoted enemy.
—*Rudyard Kipling.*

* *

You cannot dare while you despair.

The same brain cannot at the same time dwell on work and worry.

Get out of the fright habit and into the fight habit.

Keep your head up, and hang on to your "grit."—*Central Electrical Supply Co.*

BY THE WAY

Praise from Sir Hubert:

Dear Sir: I wish to thank you cordially for copies of *Texaco Star* received, and particularly, do I wish to compliment you upon the rare beauty of the covers of these magazines, and the intense interest of everything that lies between the covers.

I have often said in public addresses and have written in various ways, my belief that a house organ was either a gold mine or a sink hole, depending upon what was put into it. The *Texaco Star* is, to my mind, a shining example of the gold mine type of house organ.

Sincerely yours,
Shuman Advertising Company,
R. R. Shuman, President.

Chicago, Feb. 21, 1916.

★ ★

This was sent to us some time ago by Supt. A. T. Smith, Oklahoma District:

Did you ever get to thinkin' as you watch the race of men, how some get by much easier than the other feller can? and it's purty dash-durned hard sometimes, to keep from gittin' sore, when you see a muzzle-loader that you know is some smallbore come kitin' up the Hill of Life with a bunch of "nigger luck," and leave the whole caboodle where the turkey left the duck, and when he gets up toward the top, and things look rosy red, he takes a swellin' in the place the Good Lord left to put a head; then he stops and takes a look at the bunch that's left behind; but he never hands them out a little help of any kind; he says, "Well, I'm some Tooter," with the accent on the toot, "I'm not in that class any more, what they need's the boot." He forgets the other feller might have had the biggest load; or there might have a been difference in conditions of the road; he might have broke a doubletree or burst a bellyband. So 'fore you criticize too much just reach out a helping hand, and kindly pat him on the back, and say, "Come on, Old Boy;" it will fill his soul with confidence and stuff your heart with joy, for the Good Lord has arranged it in His wise and loving plan, that the only way to help yourself is to help the other man. So, when the line seems out of step and everything seems bad, and you want to cuss—and then you don't, and then you wish you had; the world seems badly out of tune and things seem gone awry, just step out of the procession and watch yourself go by—then look around and find some pal, who's kind a in the ditch; give his wheel a little shove and help him take another hitch. It will fill your heart with gladness when you help him up the line, and the world will all come right again and the sun begin to shine. Don't think your troubles over because you're on the top, 'cause you can't always sometimes tell how soon you're going to drop. Don't try to occupy the heights of Fame and Wealth alone, 'cause there's room enough for more than one to find a happy home; so kindly help your fellowmen to reach the summit too, 'cause heaven won't be heaven at all if there's no one there but you.—*K. D. Smith in "The Sample Case."*

★ ★

"Mr. and Mrs. L. J. LaRue wish to express to their many friends, their appreciation of, and sincere thanks for, the many beautiful and useful presents received by them on the occasion of their wedding March 1, 1916.

"They are now at home at No. 7 Marie Louise Apartments, Houston, Texas."

★ ★

A high Officer in one of the branches of the Company's business thus relieves his pent up feelings:

After reading the March issue of the *Texaco Star*, and being highly enthused with Texaco products in general, the following bit of foolishness entered my mind:

If the great products branded TEXACO
Could be purchased only in MEXICO
Where Villa has caused our troops TOGO
All lovers of good grease would be NEXTOGO.

I feel better after getting this out of my system.

★ ★

"A lot of opportunities come at inopportune times."

Gossiping and lying go hand in hand.

The realization that youth has vanished and the sun glowing red in the west is hell if you haven't grandchildren to draw your gaze to the eastern sky of life.—*Geo. M. Bailey* in *Houston Post.*

When a married woman "gives up her music," it is a sign she never could play very well.

—*Ed Howe.*

When everything's made of concrete,
In a world where there's nary a stick,
The child that has been indiscreet
Will have to be spanked with a brick.

—*Judge.*

APHORISMS OF THE TEXACROW

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. A. R. Weber, New York.
Legal Dept.	J. S. Ballard, Houston.
Treasury Dept.	Lee Dawson, Houston.
Comptrollers' Dept.	B. E. Emerson, Houston. P. A. Masterson, New York.
Sales Dept., S. Territory	M. G. Jones, Houston.
Sales Dept., N. Territory	S. Slattery, New York.
Export Dept.	J. B. Nielsen, New York.
Purchasing Dept.	J. E. Byrne, Chicago.
Railway Traffic Dept.	J. W. Painter, Houston.
Producers	P. C. Harvey, Houston.

REFINING DEPT.

G. P. Hannen has been added to the office force as stenographer at the Morgan City Shook Mill.

B. J. Williams, formerly with Seaboard Air Line Ry. at Norfolk, Va., has entered the service as stenographer at Port Arthur Terminal.

The launch *Juliet* is just off the ways after having been thoroughly overhauled and equipped with new 50 h. p. engine.

Captain Ed Merren has returned from a visit with relatives and friends at Grand Cayman and other points in the West Indies.

Frank V. Snyder has been appointed stock clerk in the New York Office of Northern Terminals.

C. C. Hawkins is in New York in connection with new construction at Northern Terminals.

F. B. Capen, of the Department engineers at Port Arthur, recently spent two days at Charleston Terminal conducting boiler efficiency tests.

Department Engineer B. E. Hull visited Charleston Terminal Feb. 24 on way north.

Miss R. Bolshaw has been transferred from Export Dep't to Refining Dep't, Laboratory Division, to take care of K. G. Mackenzie's stenographic work.

H. J. Green has been elected manager of the Texaco Island Stars. Their first game of the season was with the Beaumont Cubs—Score, 19 to 9 in favor of the Texaco Island Stars. The team is working in earnest and has a number of games scheduled. It challenges the Houston Team to a game on Texaco Day, June 10, at Sylvan Beach.

Spencer Le Clere, son of Mr. and Mrs J. L. Le Clere, Port Neches Works

Water Shipments by The Texas Company from Port Arthur, Texas, Month of March, 1916:

DATE	VESSEL	BARRELS	DESTINATION
		Refined.	
2nd	Brg. Pittsburg	7,540	Sabine, Texas
2nd	S.S. Texas	73,506	Charleston and Delaware River
3rd	Brg. Sixty-One	4,631	Berwick, La.
4th	Brg. Sixty-Three	4,635	Berwick, La.
4th	Brg. Tulsa	8,064	Amesville, La.
4th	S.S. Wieldrecht	34,504	Vlaardingen, Hol.
5th	Brg. Pittsburg	7,425	Sabine, Texas
6th	S.S. Roumanian Prince	40,161	Dartm'th, Eng.
8th	S.V. Carrie A. Lane	5,621	West Indies
8th	S.S. Triton	18,834	South America
10th	S.S. Florida	10,941	Amesville, La.
10th	Brg. Dallas	16,897	Amesville, La.
10th	M.Sch. Samso	2,798	West Indies
11th	S.S. Illinois	56,411	Bayonne, N. J.
14th	Brg. Magnolia	7,116	Mobile, Ala.
15th	Brg. Tulsa	8,214	Amesville, La.
15th	S.S. Livietta	18,686	South America
15th	S.S. Mode	7,821	Stockholm
16th	S.S. City of Everett	2,358	Bayonne, N. J.
17th	S.S. Cowrie	43,482	Dartm'th, Eng.
18th	Schr. Inga	1,446	Jamaica
19th	S.S. Florida	10,430	Delaware River
20th	Brg. Dallas	17,427	Norfolk, Va.
20th	S.S. Alabama	4,886	Bayonne, N. J.
22nd	S.S. Winnebago	31,827	South America
22nd	S.S. Nils	563	Cuba
25th	Brg. Magnolia	7,039	Mobile, Ala.
25th	Brg. Tulsa	6,285	Amesville, La.
29th	Schr. Kineo	15,895	Bayonne, N. J.
30th	S.S. Illinois	58,025	Bayonne, N. J.
30th	S.S. Hercules	21,036	South America
31st	S.S. Neches	4,594	Porto Rico
	Miscellaneous	3,144	
		562,242	
		Crude.	
11th	S.S. Illinois	30	Bayonne, N. J.
16th	S.S. City of Everett	28,135	Bayonne, N. J.
22nd	S.S. Nils	2,978	Cuba
	Miscellaneous	1,077	
		32,220	

Total: 594,462 bbls.

MARINE DEPT.

L. B. Jackson, formerly with the American Hawaiian Steamship Company, is now with the Marine Department, New York.

James L. Strang has been transferred from Barge *Hobson* to Barge *Scott*.

James T. Lenahan has been appointed Master of Barge *Hobson*.

LEGAL DEPT.

On March 10, after an illness of less than two weeks, B. F. Hinesley died from an attack of pneumonia, leaving surviving him his wife, a son, and a daughter. Mr. Hinesley had been in this Department only three months, but had been in the service of the Company about six years, during which time he won the friendship and esteem of all with whom he came in contact by his amiable disposition and sterling worth. To the sorrowing family we extend our heartfelt sympathy.

We take pleasure in announcing the marriage of C. B. Hodges and Miss Lilly V. Fitzsimmons on March 21 at the home of the bride's parents. Immediately after the wedding ceremony Mr. and Mrs. Hodges left Houston for a two-weeks visit with relatives at Dallas, Waco, and Georgetown.

General Counsel Amos L. Beaty has returned to New York after a two-weeks stay at Houston.

P. A. Sanders has been transferred from the Refining Dep't to the Legal Dep't. Mr. Sanders is secretary to Judge Lawhon.

Members of the Legal Department have been travelling around considerably of late: Judge John made a trip to Austin; Mr. Crain has been to Birmingham; Judge Lawhon is trying a case at Cotulla—'way down on the Mexican border; Mr. Jackson is on a trip to South Carolina and Georgia; and Mr. R. E. Brooks, Jr. spent several days in San Antonio attending a hearing.

Miss Louise W. Strong died at Long Island College Hospital, Brooklyn, N. Y., on March 8, 1916. She entered the service of the Company May 21, 1910, as stenographer in the Sales Department, but was transferred to the Land Division of the Legal Department Nov. 1, 1911, and there remained until the time of her death, which followed an illness of less than one month. Though Miss Strong was somewhat past the meridian of life, her heart was always young, and her genial, kindly temperament won her a host of friends who will long mourn her loss.

328 Lenox Road, Flatbush, L. I.

Mr. Oakley and Friends of Miss Strong in The Texas Company:

As Miss Strong's nearest friend, I want to express my thanks for, and appreciation of, your beautiful tribute to her at the last. In a certain sense she was very much alone in the world, which makes the kindly touch of Friendship's hand all the sweeter. I am glad of your words of approval of the last rites (which have reached me) and again I thank each one of you.

Very sincerely yours,
Carrie W. Merriam.

March Fifteen.

COMPTROLLER'S DEPT.

E. D. Schaeffer of the Houston Offices has gone to Boston to assist Traveling Auditor G. C. Elliott in his audit of Boston District Office.

A. G. Horlock, formerly in the Sales Dep't, was recently transferred to the Comptroller's Dep't, Houston Offices.

Baldwin Wiliford and L. P. Fowler, stenographers, and A. R. Wilson and F. C. Connolly, clerks, are new members of the Houston Offices force.

SALES DEPT. S. TERRITORY

Houston District.—Salesman J. K. Sullivan, Beaumont territory, has the habit of selling Liquid Wax Dressing in

Miriam Edna, born Oct. 2, 1915, daughter of Roy B. Wright, of the Insurance Division of the Legal Department, New York.

Latest addition to stables at Houston, Tex. Station—She is 3 years old, weighs 1,400 lbs., blue roan, and one of the prettiest animals ever seen.

Efficiency Force at San Antonio, Tex. Station

Lub. Ass't P. H. Burger and Salesman W. L McCamly enjoying a salt water bath in the Gulf at Corpus Christi.

barrel quantities to consumers at consumers' schedule. J. K. evidently has the ability to make customers realize a good thing, and he has acquired a good habit.

Agent W. C. Mantius, Corpus Christi, Texas, and Salesman Geo. S. Gray were recently successful in lining up one of the largest industries in Southwest Texas on Texaco oils and greases.

Dallas District.—Lubricating Engineer J. N. Prewitt worked in the Oklahoma District a portion of last month.

Engineer P. J. Bedell, has been doing especially good work among the saw mills.

T. J. Goodwin, Equipment Clerk, who has been laid up for some time with rheumatism, is improving rapidly.

The District Office now has a lady telephone operator, Miss May Sullivan, and civilizing effects are already noticeable.

Jesse W. Mitchell, bookkeeper in the Dallas Office, has succeeded W. R. O'Hair as agent at Denton, Mr. O'Hair having succeeded J. D. Allen, Salesman in Amarillo territory, resigned.

S. R. Blake, has been appointed agent at Waxahachie, succeeding Pat Wilson, resigned.

In the last month Supt. W. H. Noble has held seven meetings in the District, being accompanied by special roofing salesman C. N. Turner.

We regret to announce the death on March 10 of Fuel Oil Dispatcher Oscar Smith, at Dallas, due to heart trouble. His body was shipped to Houston for burial.

We also regret to announce that Mrs. T. E. Karnes, wife of T. E. Karnes, Sup't Noble's stenographer, died at St. Paul's Sanitarium in Dallas on March 21.

The Texaco Club had its second monthly entertainment and dance on March 7. Preceding the dance was a contest in which Miss Margaret Goodwin won the ladies' favor and B. M. Wylie the gentlemen's. During the first half of the evening a vocal solo was rendered by Miss Margaret Goodwin and a vocal duet by Miss Grace Crain and Mrs. T. G. Howlin. Refreshments were served to about forty couples.

William Francis Graves, Jr., son of Agent W. F. Graves, Honey Grove, Texas.

New Orleans, La., Station

New Orleans District.—Every good wish is extended to Agent M. E. Trowbridge, Shreveport, La., in view of the following announcement:

Mrs. William Moore Palmer announces the marriage of her daughter Maude Holbert to Mr. Milton Elmo Trowbridge, Monday, March the sixth, One thousand nine hundred and sixteen, Shreveport, Louisiana.

A New Design in Private Garages

Has just been completed by G. B. Evans, local salesman for the Texas Oil Company, near his residence on Sherman street. The building is 12x16, 8 feet high, boarded on sides and rear with rough 1x8. The sheeting is shiplap. The roof, sides, and one end covered with Texaco roofiing. The sides are paneled off with O G bats, and the bats painted. The front is shiplap with two sliding doors. This makes the garage dust and damp proof and is more economical than iron or brick and not so hot as an iron building. This idea of covering a building all over with roofing is a good one and any old farm house or cabin can be made attractive and comfortable at a small cost. The old shingle roof can be covered with roofing as well. Makes a nice design for a summer house or bungalow. Texaco Roofing is sold by almost all lumber dealers, implement dealers, and hardware dealers. . . . Mr. Evans will be pleased to furnish specifications and information on how to build a private garage of this style.

Daily Times-Record, Jennings, La.

In comment upon this notice, Mr. Evans writes:

While this incident might appear to be insignificant, yet it brings out an opportunity to open up a new field for roofing sales. . . . The idea of summer houses and bungalows is a good one, and some of the men who are with the Company could build one and help start the work. . . . Every local agent and salesman can assist this movement if he will get someone in every community to build a building, or build one himself, and cover roof and sides with Texaco roofing.

Birmingham District.—A District Office Efficiency Committee has been recently formed, with Chief Accountant Murdy as Chairman. We are expecting beneficial results from the deliberations of this Committee.

Covered Tanks, New Orleans Station

The Texas Oil Company in Carnival Parade at Plaquemine, La., Mardi Gras, Mar. 7, 1916—Driver L. J. Marchand

Agent J. C. Taylor, Selma Station, who resigned has been succeeded by T. Q. Jones.

Lub. Ass't Taylor is navigating with the aid of a cane,—caused by sprained ankle.

Engineer-Salesman Dempster joined the aviation corps with his Ford roadster. At the end of the flight he was found under the car, which had turned completely over. No serious injury resulted.

Agent Roberts, Sheffield Station, announces the arrival of twin boys at his home on March 7. We congratulate Mr. Roberts.

Tank Wagon Driver Perkins, Birming-

Stables, New Orleans Station

Reconstruction of Birmingham, Ala. Station after the fire—seven of the fifteen 10 x 30 storage tanks in place, Mar. 16, 1916

Rebuilding stable removed from North Birmingham location—Mar. 16, 1916

ham Station, is training an Assistant who arrived at his home recently.

Salesman Reed, headquarters Mobile, while on a recent visit to the District Office, received advice that the stork had visited his home during his absence and left a girl. This, we believe, puts us in the same class with Atlanta District.

Salesman Reed recently secured a future order from a large sawmill in Southern Alabama for 294 bbls. lubricating oil.

Atlanta District.—Thad E. Horton, clerk at Jacksonville Station, has been appointed Agent at Macon, Ga., to succeed M. B. Hammond assigned to Macon territory as salesman.

Salesman W. G. Craig, Macon territory, has been transferred to Northern Florida territory, headquarters Tallahassee.

L. O. Litchfield, clerk at Atlanta Station, has been promoted to Agent at the new Lakeland, Fla., Station. All the boys wish "Litch" the best of luck.

F. A. Kennon has been promoted to clerk at Atlanta Station, and is succeeded, as warehouseman, by R. R. Jackson, Jr.

J. E. Homer Kerr has joined the District Office force as bookkeeper, succeeding H. L. Ragin.

John Morson, formerly Stock Clerk, has been promoted to Clerk Jacksonville Station, and is succeeded by John H. Rather.

G. W. Parmlee has joined the Credit Office force as stenographer.

John Hutter, Jr. has been employed as file clerk in Atlanta District Office to succeed David Bressler, resigned.

R. J. Swain, Secretary to Southeastern Representative D. A. Vann, has resigned to accept a better position with another concern. The District Office force presented the "Colonel" with a handsome cellarette, which was tendered to him in a magnificent presentation speech by Chief Accountant R. E. Fuller. The Colonel's reply was characteristic: "Oh, h——, boys, I can't make a speech." Mr. Swain carries with him the best wishes of every employe in the District; even the porter said, "I feels like I loss my bes' frien'."

G. A. Wright, stenographer to Sup't Bradford, has been promoted to Secretary to Southeastern Representative Vann. He is succeeded by L. H. White, former stenographer to Chief Clerk Worthington, who was in turn succeeded by L. R. Jeter.

Salesman J. A. Gallagher headed the salesmen's list on general collection effi-

ciency during February. Salesman Taylor made the largest number of collections, also collected largest number of XXX accounts and stood second on B's. Salesman Farrior made second largest number of collections, while Salesman Craig was first on B's and second on XXX collections.

SALES DEPT. N. TERRITORY

New York District.—M. B. Thayer has joined the sales force as Lubricating Salesman in Long Island territory, headquarters Babylon, L. I.

H. L. Renz, has been transferred from Lubricating Clerk to Lubricating Salesman, New York territory.

Thos. P. Beston was appointed Agent at Redwood, N. Y., March 17, succeeding N. Kimball resigned.

On Tuesday evening, Feb. 22, 1916, a very pretty wedding was solemnized at "Bristol on the Delaware" in which Miss Isabell Swift of St. Louis, Mo. and Mr. William G. Jenkin of the New York Office were the principals. All in the New York Office joined in offering congratulations and best wishes.

The Fourth Annual Meeting of Agents and Salesmen of the New York District was held in New York City at the Park Avenue Hotel March 15 and 16, and was presided over by Sup't J. P. Gruet. A number of officials were in attendance, and addresses given by them were much enjoyed. We also had the pleasure of hearing an interesting talk on "Salesmanship" by H. N. Tolles, of the Sheldon School of Salesmanship, Chicago, Ill. W. L. Jacobus, Chief Chemist, Susquehanna Coal Co. and S. Johnson, Sup't and Chief Engineer, Hill Publishing Company, gave interesting talks on the use of Crater Compound and other lubricating Texaco products, and the excellent results in their own experience.

At the close of the second day's session a banquet was tendered by the "Texaco Greasers" to all in attendance and their friends, at Reisenweber's. Our boys fortified by a two-days talk-fest and remembering the glories of Texaco acquitted themselves nobly, sitting firm and receiving all charges with the edge of the knife and the point of the fork. During the dinner an excellent program of singing and dancing was given. Everybody had a good time and enjoyed every minute.

Philadelphia District.—Frank J. Doran is recovering from his illness and will be back at his desk within the next few days. Mr. Doran has been missed to no small extent and his return is looked forward to by all his associates.

Robert Hayes, Mail Clerk, has resigned to study electrical engineering. Our best wishes will accompany him throughout his course. John Mooney succeeds Mr. Hayes in this office.

The stenographic Accounting force has been augmented, and we welcome Riter Meddenbach and H. M. Barnhart to our ranks.

The improvements at S. Philadelphia Refined Station are being pushed to a conclusion, but owing to freaks of the local weatherman operations have been somewhat handicapped. By the time the next *Star* goes to press we hope to have some interesting notes of this Station. Agent E. W. Dorsey makes great promises of increased output when all improvements have been completed.

Norfolk District.—On March 3-4 a meeting of Operating Inspectors was held at Norfolk, which was attended by Sup't Williar Thompson, Chief Acc't J. R. Haden, Chief Operating Inspector J. Warren Thompson, and Operating Inspectors C. D. Hill, D. H. Farquharson, R. B. Allen, T. J. Stocks, L. P. Kilgore. All work of the Refined Stations was thoroughly discussed.

On March 15 Emporia, Va., was taken over as a regular refined Station, with R. L. Jones Acting Agent.

R. A. Morrison has been appointed stenographer in the Norfolk District Office.

H. A. Wild has been appointed Agent at Roanoke, Va.

Ford Drum Chaser, operating from Norfolk District Office.

The work of this truck is to go through the country, pick up empty iron barrels belonging to T. T. Co., and deliver them to the nearest railway station. It is thoroughly equipped for thus expediting the return of our empty iron barrels. This practice was begun by J. H. Morrison, now transferred to Boston District, and Mr. Hayden has carried out the plan. C. G. Wright (a brother of H. S. Wright, Clerk at Norfolk Station) has been assigned to operate this car.

Chief Accountant Kelly of the Boston District spent three days in February with us. This was the first time we had seen him since 1912, when he audited this District. All were glad to see Mr. Kelly, and

we hope he enjoyed himself as much as we enjoyed seeing him.

On Feb. 23 Credit-Man Foster entertained Chief Accountants Kelly and Haden at the Creditmen's weekly dinner, which was held at the Chamber of Commerce Club. Mr. Foster introduced both of these gentlemen to Local Credit Men and they were given a warm round of applause.

T. D. Ferguson, Captain of the Power Boat *Dola Lawson*, was recently married at Hampton, Va. As we have not yet received announcements, we are unable to furnish further information. Tom has advised us that the announcements will arrive in due time. We wish to call the attention of all who contemplate matrimony that it is impossible for the Norfolk Correspondent to give them a write-up in the proper way unless he be furnished with the details. Please address all communications to: W. J. Barton, Correspondent, and Manager Matrimonial Bureau, Norfolk District.

We call attention to the February issue of the *Star*, in which we advised George N. Beaton, Jr., to "Go to it, George!" It is evident that Mr. Beaton took our advice, as his engagement to Miss Doris LaFaucher of 407 Raleigh Ave., Norfolk, Va., has since been announced.

Norfolk District Office has organized its Baseball Beam for the coming season, and they have applied for a berth in the Commercial League of the City of Norfolk. The following appointments have been made: J. R. Haden, Manager; L. Austin, Captain; W. J. Barton, Secretary-Treasurer.

Chicago District.—E. T. Evans has been appointed Refined Oil and Gasoline solicitor. Mr. Evans will work out of Chicago-West Pullman Station.

We regret that Agent J. W. Lowry, Chicago, Thirty-fifth Street Station, has been confined to his home the last week by a severe illness. We trust he will soon be able to resume his duties.

Ass't Sup't C. F. Schmook made a trip to St. Louis and Joplin the week of March 13.

Sup't H. T. Snell attended the Superintendents Meeting in New York, March 13-14, also the Annual Sales Meeting of the New York District.

Salesman E. L. Ketcham spent ten days of the first half of March in the Copper Range district of Michigan. He sends these views as of especial interest to "Texaco Stars" of the South. Mr. Ketcham says that at the time he left the district there was 150 inches of snow on the level ground:

Railway station at a little mining town north of Calumet, Mich., March 1916.

Scene (March 1916) on a two-miles trip up the railway track, which Mr. Ketcham had to make on foot to interview a mining concern.

EXPORT DEPT.

F. S. Douglass is now in the United States on leave of absence after spending several years in the service of The Texas Company in the Far East. Mr. Douglass will return shortly to his former sphere of activities, with temporary headquarters at Manila, P. I.

V. R. Currie sailed from Rio de Janeiro March 21 for New York.

M. D. Greer has returned to New York after studying shipping conditions for several weeks at Port Arthur and other southern points.

W. C. Guptil sailed March 22 for Port au Prince, Hayti, where he will be located for some time.

P. Van Wagner sailed from Santo Domingo City March 14 for New York, leaving G. A. Hummell temporarily in charge of our business in Santo Domingo.

F. J. Boyd, who was connected with the Waters Pierce Oil Co. in Mexico some years ago, has joined the staff of the Export Department and will be located permanently in the West Indies.

★ ★

The "Suggestive Index of Current Articles," to which this page is regularly devoted, is not discontinued—only crowded out for this month.

Seven Years on the Hardest Proposition in the Country

Seven years ago a large Railroad in the West signed a contract for TEXACO LUBRICANTS. We are still supplying all of the lubricating requirements of this road.

We are proud of this job, not only because TEXACO LUBRICANTS have consistently proved their value over this period by maintaining themselves on an efficiency basis, but because of the severe conditions encountered.

It is the hardest proposition in the country.

The road runs for several hundred miles through an arid country, where high winds prevail and where the sand is an aggravating feature. During the winter months there is a vast difference between the temperature of the north end and the south end of the line, but with all this, the business has been handled with satisfaction to all concerned—a satisfaction which is increased by the unsuccessful results of other oils in competitive tests.

Many other railroads have been convinced of the economy of TEXACO LUBRICANTS for rolling stock, shops and power plants.

A trial under your conditions will show you the value of TEXACO LUBRICANTS, and lead the way to large savings.

May we make that trial soon?

TEXACO **THE TEXAS COMPANY** TEXACO

A short time ago, we asked our railroad departments for some advertising stories. We received several written in pencil with the notation "There weren't any stories, so I wrote some—EBJ". We have since learned that "EBJ" is Mr. E. B. Joyner, Secretary to Mr. G. L. Noble. This advertisement was suggested by one of the stories, and has appeared in the Railway Age Gazette and the Railway Mechanical Engineer, and we wish to take this opportunity to thank him.

THIS IS "CRATER"

SKETCHED FROM PHOTO

HE is one of our prize heavy draft horses in Chicago. The boys out there named him after TEXACO CRATER COMPOUND—the great gear and rope lubricant.

They gave him this name in recognition of his strength and his capacity for hard work.

They felt for this handsome animal the same pride which the whole organization takes in the success of

TEXACO CRATER COMPOUND

The reader may think it a little strange for a business organization to show such enthusiasm for a lubricant:

That's just the point—

TEXACO CRATER COMPOUND is NOT an ordinary lubricant.

It is doing things in the way of lubricating which could not be done before.

It saves gears by giving effective lubrication, under conditions where no product formerly employed could remain a lubricant.

We have daily reports on the performance of TEXACO CRATER COMPOUND which, when judged by old standards, seem almost impossible.

Here's a rolling mill man who shows us gears on a roll table train with a perfect coating of TEXACO CRATER COMPOUND despite the high radiated heat.

Here's a cement man who tells us how TEXACO CRATER COMPOUND saves his gears in the face of heat, enormous pressure, and flying dust.

Here's a coal operator who tells of "Crater's" resistance to mine water—and the protection it gives to wire rope.

On wire rope, clients tell us, they now measure the life of a rope in months—where formerly the same number of weeks meant wear, corrosion, and destruction.

There is one point about TEXACO CRATER COMPOUND we want to make as strong as possible. IT IS pure lubricant throughout

There is nothing in it which separates out—hardens, or which can be affected chemically. That's why it's such a great lubricant—and that's why

IT SAVES THE GEARS

TEXACO

THE TEXAS COMPANY

Houston - - New York

Boston Philadelphia Youngstown Chicago St. Louis
Atlanta Dallas Birmingham Oklahoma City
New Orleans Norfolk El Paso Denver

TEXACO