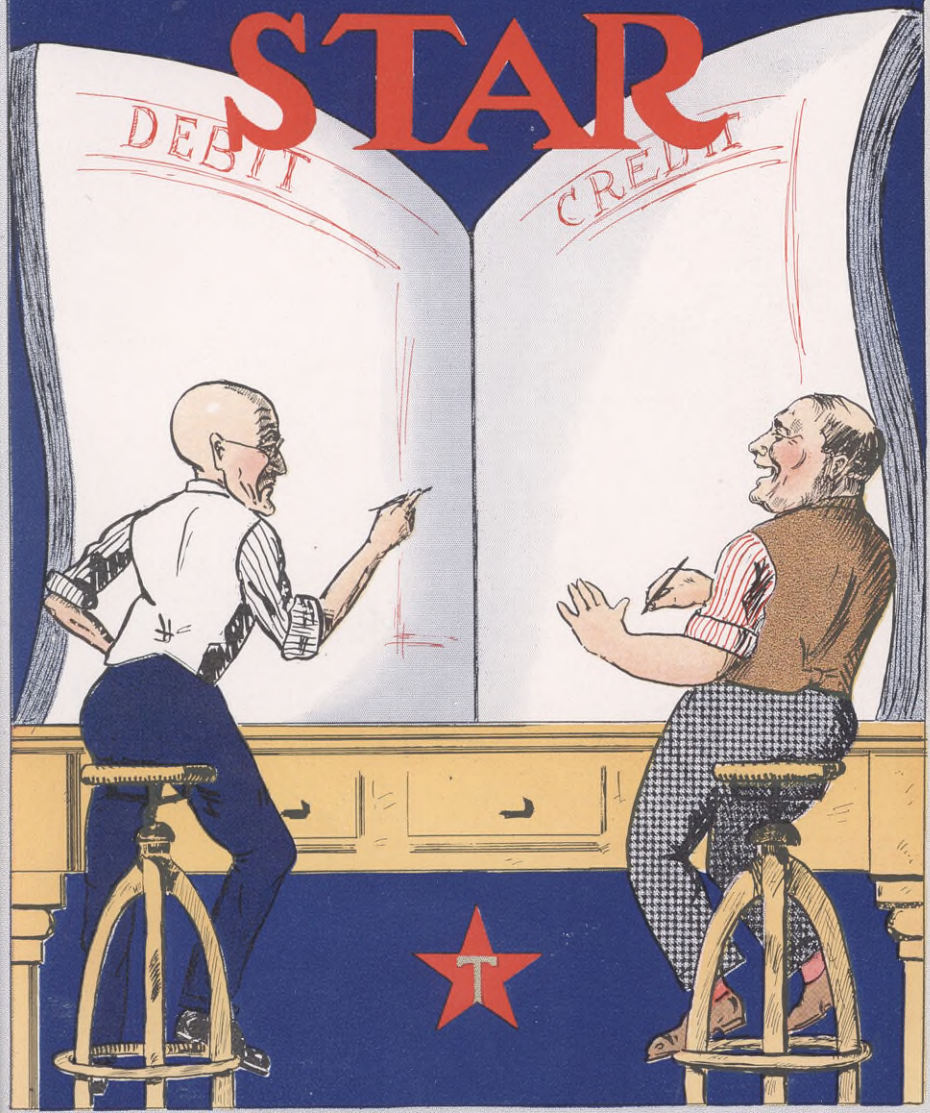
COMPTROLLER'S DEPARTMENT NUMBER

THE TEXACO STAR



Vol. 1 JUNE, 1914 No. 8

Comptroller's Department Staff

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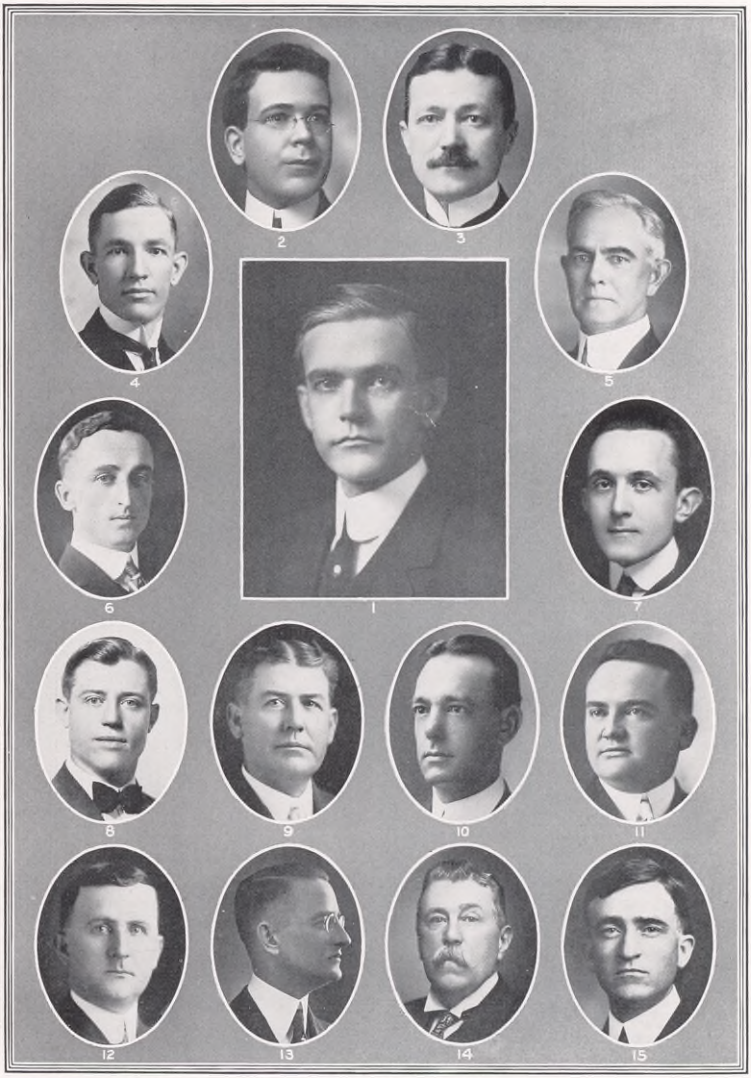
THE secret of success is not a secret. Nor is it something new. Nor is it something hard to secure. To become more successful, become more efficient. Do the little things better. So work that you will require less supervision. The least supervision is needed by the person who makes the fewest mistakes. Do what you can do and what you should do for the institution for which you are working, and do it in the right way, and the size of your income will take care of itself.

Let your aim ever be to better the work you are doing. But remember always that you cannot better the work you are doing without bettering yourself. The thoughts that you think, the words that you speak, and the deeds you perform are making you either better or worse. You are the master of your fate and the captain of your soul. You can be what you will to be. Forget yourself in rendering service. If an employe, strive to make yourself of greater value to your employer. Look upon yourself as a manufacturer. Think of yourself as being in business for yourself. Regard yourself as a maker and seller of service, and ever bend your thought and your energies toward the improvement of your product. The wise manufacturer never injures his machinery willfully. Your body, your mind, your soul serve as your plant. Eat and drink only that which will nourish your body, entertain only those thoughts that will enrich your mind, and you will build up a Service Factory that will find its products in constant demand.

The world is hungry for Quality Service. It wants to pay for it. It is paying for all it can get. The market is not crowded. There is a chance for you right now. There is a chance for you right where you are. The time to start is Now. Your reward will take care of itself.

—*Thomas Dreier.*

COMPTROLLER'S DEPARTMENT STAFF



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TEXACO STAR

VOL. I JUNE, 1914 No. 8

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

ADDRESS: TEXACO STAR, 1101 CARTER BUILDING, HOUSTON, TEXAS

THE report of the School of Instruction recently instituted in the Sales Department, Northern Territory, published in our May issue, has elicited much interest, not only in the Southern Territory of the same Department, but on the part of employes in other Departments of The Texas Company. The two following letters represent the respective interests:

From an employe in the Dallas Division of Sales Department, S. T.:

"In your May issue of the *Texaco Star* on page 21 I notice an item on school of instruction and would be pleased if you would write me something further on this subject as my one ambition is to become an efficient employe of The Texas Company. I am at present only a 'stake wagon driver,' but I don't want to always drive a wagon and I want every information I can get about the business; so would very much appreciate anything you can tell me about this."

From an employe in the Comptroller's Department:

"In the *Electric Railway Journal* of March 7, which you kindly loaned, the article by T. C. Martin, Secretary National Electric Light Association, describing organized educational methods employed by member companies, is, to the writer, particularly interesting. That The Texas Company is adopting somewhat similar educational measures in certain Departments I have noted with a good deal of interest. The idea, with modifications, might well be extended to other branches of the service. Officers would be benefitted by means for systematic discussion of methods and local problems, development and interchange of individual ideas, and perhaps occasional lectures or papers on pertinent topics. The constantly changing personnel spoken of by Mr. Martin is a condition which we have to deal with to a considerable extent, and the burden of personal instruction to the many new employes cannot always be adequately met by their immediate superiors in the regular course of business. If editorial comment on this subject should be thought proper, I'm sure it would interest many of your readers."

The report of the Director of the School of Instruction (which includes a correspondence course for all employes in the Sales Department, Northern Territory, who wish to take it) referred to by our correspondents, sufficiently indicates the nature of the direct services rendered by, and the participants' appreciation of the enterprise already afoot in one sphere of our Company's work.

In a general view, this or any similar undertaking is based upon the fact that a thoughtless policy of "hiring and firing" until a man suited to the job may, perhaps, at last be found, is wrong and very wasteful. Especially in this restless time when young men are groping about for careers more loosely—with less fixed purpose—than ever before in this or any other country, capricious changing, due to impatient discouragement, aggravates the inherent wastefulness of the "hiring and firing" way. The statistics of that method, which is as brainless as it is heartless, would be staggering.

Now, the ever-pressing problem of how to find the right man for the job is coming to be approached from two different sides, both far removed from the "hiring and firing" way. On one side, when men do not know how to do properly and efficiently the work assigned to them, systematic ways to teach them the lacking knowledge are provided. On the other side, and in addition to fitting men for their jobs, employers are more and more giving attention to finding the right job for the man.

It has long been recognized that positions ought to be filled by men especially fitted for them; but this has commonly been taken to mean only, fitted by mechanical knowledge of and experience in

the work to be done. Today it is coming more and more to be understood that the temperament and the character and the essential quality and caliber of a man are of even more importance for fitness for a given position and permanent success in it, than any particular knowledge and experience. It is the greatest virtue of rational and enlightened management, that it never needs to throw a good man away. Expert management, consequently, seeks both to fit men for their jobs and to find the right jobs for its men.

★ ★

"Everybody wants to be a winner," says Herbert N. Casson, "but hardly anybody will take the trouble to train. Very few salesmen have the grit and the sand to do the hard things that eventually bring success. Very few young men will go to the trouble of digging up a ton of gold if it should happen to be twenty feet underground. They want to get their gold easy. They are loafing around looking for a chance to pick up nuggets." And Mr. Casson adds that it is just as true for manufacturers as for salesmen—that the easy way leads to nowhere in particular. The road that leads to good fortune and success is never a boulevard. Sometimes it is not even a path. Sometimes it is a narrow tunnel that has to be made through the rocks.

★ ★

The Fourth Annual Texaco Picnic, as announced last month, was held at Woodworth Park, near Port Neches, Saturday, May 23, 1914. The weather was good and the picnic was a big success. The Houston, Sour Lake, and Beaumont employes had a chartered train of eleven coaches, which left Houston over the Frisco at 7 A. M. and carried nearly 800 persons. These added to the larger Port Arthur and Port Neches contingents made a total crowd at the grounds which was estimated at nearly 4,000. The Company gave a holiday to every employe who could possibly be spared from duty. Many officials of the Company were present, and it was an especial pleasure to many employes to have President Lufkin with them.

The various committees appointed from the different Departments handled the whole affair in a very satisfactory manner. The chief attractions were a fish fry and the baseball game between the employes of the Houston offices and the employes of the Port Arthur Works. Two thousand pounds of Red Snapper were consumed at the fish fry, and in the ball game the Houston boys wiped out their defeat of last year by a score of 9 to 2. The Port Arthur "Spaders" were unable to connect with pitcher Emmett of the Houston "Pen Pushers." The Marine Department's tug *Pascagoula* made hourly trips on the Neches. A special train was run from the picnic grounds to Port Arthur Works and Port Arthur Terminal, and numerous visitors inspected the plants at those points. Dancing pavilions had been erected on the docks at Port Arthur and in the grove, and dancing was enjoyed during the afternoon by many couples from all quarters, and long into the evening by the Port Neches and Port Arthur folks. The special train departed for Houston at 7 P. M. and discharged its tired but happy crowd at Union Station about midnight.

We may be sure that everybody resumed work Monday with refreshed energy and good will. In a great company like The Texas Company there is need for the development of a clear consciousness of unity, and the more personal acquaintance and friendships extend through all departments, the more that need is helped. May The Texas Company always enjoy the genuine loyalty of every one of its members, and may all ever work and live in the true spirit of *Each for All, All for Each.*

★ ★

It is often said that this is an age for young men, that shops want young blood, and, as a matter of fact, some shops do try to avoid hiring men over 35 years of age. The *American Machinist,* however, reports a recent refreshing visit in a large machine shop where a man is considered young until he reaches 65 years of age. A number of the men had seen from 20 to 40 years service with the company. When inquiries were made as to their work, it was declared to be as good and often better than that of many younger men. "In this shop," comments the experienced visitor, "was noticed the absence of waste motion; no 'goose steps' were seen. Often much of the hurry and bustle exhibited by the younger man is useless motion and parade action. To the superintendent who looks only at appearance,

such actions might indicate a live shop, but in fact they do not get anywhere. Here is where the man with years of experience has an advantage over the younger man. The work which he does may be devoid of the show which marks the younger man's efforts, but each motion, from long established habit, follows the one before smoothly and correctly. This does not imply that there are no wasted motions, for there may be such, but a long series of motions done in the sequence set up by long practice is better and more quickly performed than shorter series only half learned." In short, there is place and use for both the steady experience of age and the fresh briskness of youth. The wisest management appreciates and knows how to use both.

★ ★

A merchant in Manila had been buying certain cotton goods at 6¼ cents a yard through the local agent of a manufacturer in the U. S. "A second member of the trade," says an account of this particular instance in the New York *Times*, "finding out from an underground source what the first exporter was doing, determined to get a share of the business with the Manila merchant." The competitor offered the same goods at 6 cents. The merchant reported this offer to the first exporter, who then cut the price to 5¾ cents. The end of the affair was that the Manila merchant got the goods at 5⅝ cents, which caused a loss to the manufacturer of ⅛ cent a yard on 150,000 yards. The point of this example is not the loss on one transaction, but the attitude which that Manila merchant and his associates will probably take in the future when dealing with our exporters in every line. The form of competition thus illustrated works havoc wherever practiced, but is especially injurious in export trade.

★ ★

The Japanese art of self-defense, jiu-jitsu, gives very little attention to training muscles and members of the body. Its main object is learning what effects in the opponent's body will render *him* helpless. The performance of the acts required to accomplish those effects, largely takes care of itself as soon as their purpose is comprehended. The learner of jiu-jitsu spends little time in practicing movements. The art is a matter of the mind rather than the body. It is the structure of the human body and the functions of its organs and the psychology of mental states and processes, that need to be understood. In practical uses of jiu-jitsu, the user has to think of movements that will produce a desired effect on his enemy. The needed movements, if their purpose is understood, come spontaneously. Rapidity and precision characterize all instinctive or intuitive acts,—there is no psychological delay, they never miss their aim. The movements of one who understands jiu-jitsu are successful for the very reason that his thinking is objective, directed at the opposing person, and *not* directed at himself or at his own action.

★ ★

The way a man spends his money is a truer index of his character and enlightenment than the way he earns it. Most of us must earn money in the ways opened to us, but we may spend what we earn as we choose.

★ ★

The manner in which one single ray of light, one single precious hint, will clarify and energize the whole mental life of him who receives it, is among the most wonderful and heavenly of intellectual phenomena.—*Arnold Bennett.*

WORK

Let me but do my work from day to day,
In field or forest, at the desk or loom,
In roaring market-place or tranquil room;
Let me but find it in my heart to say,
When vagrant wishes beckon me astray,
"This is my work—my blessing, not my doom;
"Of all who live, I am the one by whom
"This work can best be done in the right way."

Then shall I see it not too great, nor small,
To suit my spirit and to prove my powers;
Then shall I cheerful greet the laboring hours,
And cheerful turn, when the long shadows fall
At eventide, to play and love and rest,
Because I know for me my work is best.

—*Henry Van Dyke.*

EFFICIENCYGRAMS

To suggest where you cannot compel, to guide where you cannot demand, that is the supreme form of skill.—*Montesquieu.*

A man is as big as his sympathies; as small as his selfishness.

Don't tell what you would do if you were some one else—just show what you can do yourself.

The fellows who quit on the stroke of five are the bunch that crowd the bottom of the ladder.—*Signal Talk.*

THE NEW HOME OF THE TEXAS COMPANY

The new home office building in Houston, Texas—for which The Texas Company has let the contract, work to begin immediately—is shown on the opposite page. It is to be a thirteen-story building. Its site is at the intersection of San Jacinto Street and Rusk Avenue, opposite the new Federal Building, in a rapidly developing business district. The structure will be steel framed, with walls up to the eleventh floor of Texas limestone, and of terra cotta from the eleventh floor to the top. The courts and rear walls will be faced with light colored brick. The first story, twenty feet in height, and the second story are to be rented for stores; the remaining stories will be exclusively for the use of The Texas Company. The architecture of the building is modern Italian renaissance. A notable feature is the arcade covering the sidewalk on both San Jacinto Street and Rusk Avenue. Tuscan columns support the arches, and the roof of the arcade will be of tile. The only treatment of this sort in this country is the covered sidewalk around Madison Square Garden in New York. In Europe the celebrated examples are the arcades round the Ducal Palace on the Square of St. Mark's in Venice, and in Paris round the Palais Royal and the Place des Vosges. It is used very successfully for buildings along the Rue de Rivoli in Paris, and around the central square of the city of Milan in Italy.

The main entrance hall is in the center of the building on San Jacinto Street, directly opposite the Federal building. The entrance halls and vestibules will be furnished in marble to the ceiling lines and treated architecturally in a renaissance manner, the prevailing character of detail being modern Italian. Besides stair cases there will be three passenger elevators of the overhead electric type. Two sidewalk lifts connect the basement with the street level.

The office structure, starting above the second floor and comprising eleven floors, is L-shaped and arranged to give the maximum of light and air. The corridors are lined with marble to a height of seven and a half feet. Above that line continuous rows of transoms give ample ventilation. The elevator halls are to be finished in marble. There will be no need of artificial illumination for these parts, because the elevator front of iron and glass will give good light.

Each Department will have its own floor, as far as possible, so as to avoid all needless running up and down stairs. The twelfth floor will be fitted for the executive offices and the directors' room. The thirteenth story will contain the mail, telephone, telegraph, and chemist rooms, and various storage spaces for different Departments. On the top of the building The Texas Company will have a wireless telegraph station to receive and send its own messages.

In preparing the plans and specifications careful thought was given both by the architects and officials of the Company to making the building convenient, comfortable, and hygienic in every respect. To expedite the handling of mail and telegrams, pneumatic tubes will connect every office with the mailing and telegraph rooms. Through these tubes mail and telegrams will pass without the ordinary messenger service. Splendid light surface is provided for the office part of the building. Refrigerated drinking water will flow on every floor. It will be thoroughly heated by steam from oil burning boilers in the basement. Arrangements for supplying its own electric power, in case the Company wishes to do so, will also be made.

Plans for the building were made by Warren and Wetmore, a firm of architects who have planned some of the largest buildings in the United States, one of them being the biggest railroad station in the world—the Grand Central Station in New York. They have prepared the plans for several large buildings in Texas, among them the Union Station in Houston. The building for The Texas Company is to be completed in time to be occupied May 1, 1915.

TO BE OCCUPIED MAY 1, 1915

CORPORATION ACCOUNTING

IRA McFARLAND
Comptroller

The working organization of large industrial or commercial corporations is usually divided into departments, the number and title of which are determined by the requirements in each case. However, in nearly every instance there will be separate departments of manufacturing, selling and accounting.

As a means of obtaining efficient and economical operation of any large undertaking, the departmental plan of organization offers many advantages, only one phase of which it is proposed to discuss here, namely, the facility with which accounts of revenue and operation may be constructed along the lines of the natural sources of income and outlay of the business.

Departments are frequently subdivided on the basis of a territorial distribution of activities, or of separately operated units, or for the separation of essentially different processes or operations coming within a single department. This separation of plant and force into departments, divisions, or other units, is a matter of expediency—a means of securing results which are known to be the normal consequence of trade.

The relation of departments to each other and to the organization as a whole, varies. While each is dependent upon the other for the complete success of the business, it can be seen that manufacturing and selling, for example, may be made two separate and distinct operations. But both manufacturing and selling require accounting, not only to exhibit the results of their individual processes, but also the net result of the combined record of their operations.

There are, then, two prime factors in the transaction of business: First, accomplishment of trade, and second, recording the accomplishment. These two factors may be termed Operating and Accounting; and it will be seen that each is directly dependent upon the other and, although separate operations, they must take place coincidently.

The management of any extensive business must depend largely upon its accounts in order to successfully direct its operations and control its policies. The accounts of a corporation are therefore a means of control, and their efficiency is of foremost importance.

The larger corporations sometimes merge all accounting matters into a Comptroller's Department. This usually implies a somewhat broadened scope of activity on the part of the accounting department in the exercise of its natural functions. In such cases, the work of this department may very likely follow two general lines of procedure, which may be called Accounting and Auditing.

ACCOUNTING

Accounting may then be understood to mean:

1. Recording and assembling, through the several operative branches and their subdivisions, the innumerable individual transactions which occur in carrying on the whole business.

2. The classification of all these items so that the condensed record of them will form a complete and comprehensive financial history of the corporation, and show at the expiration of any fiscal or other period the condition of its affairs—assets and liabilities, with details of each, and surplus or deficit; results of operation, gross and net income, the elements thereof, and contributory causes.

3. To systematically and periodically exhibit the records so obtained in such a way as to show, for the benefit of the management and the guidance of all operating officials, the separate net results of each operating division or unit in figures of costs, expenses, and revenues, together with comparison between like units for similar periods, and other statistics designed to illustrate currently the progress of a going business in all its branches and to enable managers to turn past experience to future account by pointing out probable sources of loss or waste and suggesting the possibility of economies or improvements in other quarters.

In this country are many corporations whose employes number several thousand persons and who transact business with many thousand persons in different States

and foreign countries, whose employed capital amounts to many millions of dollars and whose methods must be more or less adapted to the varying conditions of different localities, although with a common purpose. Apply to a concern of this kind the accounting requirements which have been outlined and some conception may be formed of what they really mean in such a case.

Consider a pay roll for several thousand employes. For each person the following must be observed:

1. Entry of name, particulars, and amount due on the pay roll, which entry must itself be based upon some definite record or information of the fact of that person's employment, the character of his duties, and the rate of his compensation.

2. Funds must be on hand and available on a certain date.

3. Payment must be made and a receipt obtained.

4. The item must receive approval and analysis for accounting purposes.

5. Payment must be scrutinized and verified as to rates, amount, and authority.

6. Item must be entered on books and distributed to the proper operating or investment accounts, sometimes involving passing through two or more offices.

7. This must be repeated either weekly, semi-monthly, or monthly.

It has been shown that the arrangement of accounting records quite naturally follows the operating organization as to subdivisions, and to a certain extent this is true also of the organization and distribution of accounting forces. This introduces the subject of the second division of accounting—Auditing.

AUDITING

The small corporation employs the public accountant to audit its accounts at the end of the year and certify them to its directors and stockholders. The large corporation whose organization and accounts are divided and scattered must have its accounts audited by departments, or divisions thereof, and the volume requires that some portion of this work be continually in progress. To this end it maintains its own staff of auditors.

The purposes of an audit are usually assumed to include:

1. The detection of technical errors; the ascertainment of their cause, extent, and probable effect upon statistics already compiled.

2. The detection of material errors of principle which may affect the fiscal statistics.

3. The detection of fraud.

4. The prevention of fraud through the influence of anticipation. Knowledge of the fact that an audit will be made, and that it may take place at any time, is believed to have a very beneficial effect in this respect.

5. A general inquiry into local conditions with respect to physical property, results of operation, and the safeguarding of company interests in every way, through an exhaustive examination of the records and accounts.

6. Development and exhibition by means of special figures and data of peculiarities affecting the corporate welfare and not disclosed by the regular periodical reports, extraordinary gains or losses and their causes, etc.

7. The formulation and presentment of recommendations for the remedy of organization defects and the improvement of methods and conditions.

8. In the case of a corporation having a number of separately conducted accounting offices, a very important function of its auditors lies in their assistance in the standardization of methods and securing uniform practice, as far as feasible, in the several offices, and to give each office the benefit of their experience and that of all the other offices.

The value of audits of this kind is unknown. Without them—even with a highly perfected system of accounting—serious losses might occur, continue, and remain undiscovered indefinitely, from fraud and through incompetence, loose methods, etc. Without these audits there would be no definite, recurring, and systematic criticism and study of methods; and the absence of these things would tend to create stagnation; safeguards would be dropped and regulations disregarded by careless or poorly instructed employes.

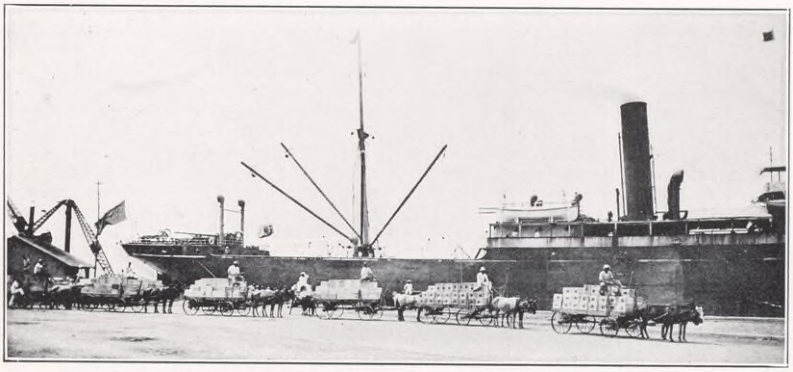
The benefits of regular audits, being largely preventative, are therefore intangible. Otherwise the work is principally in review, and as the degree of operating and accounting efficiency sought after is approached the specific irregulari-

ties developed in review may be expected to diminish. But only by continuation of the examination at frequent intervals will efficiency be maintained and the possibility of serious loss guarded against.

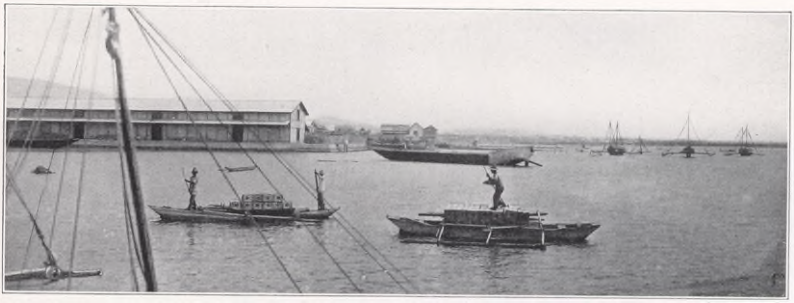
The auditing staff to be effective must be wholly independent of all other branches of the service and responsible directly to the Comptroller or other official of similar capacity. However, it should be regarded by none as an alien force. It should be a co-operative body and a strong factor in the upbuilding as well as the preservation of efficient organization. Its methods of accomplishment in this respect must, however, be indirect to a considerable extent, because of the nature and responsibility of its duties.

Thus the chief official of the Accounting Department, through the constructive work of the division for accounting and the retrospective scrutiny and analysis of the auditing staff, is enabled to present dependable information of company affairs in all quarters for the use and benefit of executives and to safeguard the corporate interest in many ways by control of accounts.

The preceding paragraphs will illustrate, also, the desirability of departmental organization and subdivision from an accounting standpoint. The division naturally following pretty much the same lines upon which it would be desirable to exhibit operating results, it is found that with the several departments and their branches thoroughly segregated, income and expenditures will originate largely within the same divisions, simplifying and greatly facilitating the work of accounting.



Texaco Entering the Philippines—Discharging at Cebu



Native Boats Carrying Gasoline—Cebu, Philippine Islands

FUEL OIL

F. C. SMITH
General Superintendent Port Arthur Works

The average person not directly connected with the use of fuel oil for generating steam is likely to have the idea that all that is necessary to do is to force the oil into the furnace, and that the desired results will be attained by letting the oil take care of itself. This is a mistake. Average engineers or firemen, using fuel oil for generating steam, are quite likely to have the idea that if their fires burn without excessive smoke and the required amount of steam is available at all times, they have done all that is necessary. They, also, are mistaken.

Engineers and others who have made a specialty of burning oil, know that it is necessary for a number of conditions to be met before the best results can be attained in the most economical manner. They are in position to tell the man burning the fuel oil what he should do and what he should not do, and unless the man in actual charge of the fires bears these instructions in mind and keeps his equipment in proper shape for carrying out the instructions at all times, the fullest measure of satisfaction cannot be obtained.

Among the things which we know we must have to get best results from the standpoint of safety, efficiency, and economy, are these: High enough flash and fire points to make handling safe; freedom from acids or alkalis which will deteriorate equipment; freedom from sediment and water which will clog or dirty equipment and result in waste or loss of time; a viscosity or flow test which will permit easy handling through pumps and lines at the lowest temperature likely to prevail at the time of use; and the oil to contain the maximum number of available British Thermal Units per cost unit, the B. T. U. being the unit of power or energy in the fuel.

Ordinarily, the number of British Thermal Units per pound of fuel is in direct ratio to the gravity of the fuel—the heavier the oil the more British Thermal Units per pound. If there were no other conditions to be considered the very heaviest oils produced would be the best fuels for use. One reason that the rule does not hold good with the heavier crudes is the fact that they owe most of their weight or gravity to the high percentages of asphaltic constituents, which are hard to handle on account of their being solid at ordinary temperatures, and therefore difficult to pump, also difficult of atomization, and their proneness to coke in burners and furnaces where not properly atomized. These oils are also likely to contain excessive amounts of sulphur in different compounds, which under certain conditions, are very hard on equipment, not only that used in handling the oil before going to the furnace, but also in the furnaces and boiler tubes themselves.

From the above it can be seen that there are well defined limits—both upper and lower—between which the users of fuel oil should keep for the sake of economy.

Not many years ago the owner of the average oil-fired power plant and his employes had the idea that if they had plenty of steam available when needed, and did not have an excessive amount of smoke coming out of their stacks, they were achieving the maximum results from the fuel burned; this was more particularly the case when the production of the then so-called low grades of crude were at their maximum, and the price was in the neighborhood of a cent a gallon.

One of the greatest features in favor of fuel oil is the ease with which it can be handled and burned, and this very point was also the cause of its being displaced again by coal in plants where careful and intelligent study was not given to the situation.

By far the greater part of the coal burned in power plants is hand-fired, and you can generally trust the man with the shovel to use every scheme to keep his efforts down to the minimum at which the plant can be kept going. This meant that any chinks or air cracks in his boiler setting were kept plugged up, and as it meant extra labor to keep his fires free from ashes and clinkers, the general condition of his fires did not ordinarily admit much excess air into the furnace through the grates. There was the additional fact that few, if any, furnaces were large

enough to permit of any considerable overload being carried for a very long period.

When oil fuel came into common use the situation changed in a number of particulars, some of which follow: The furnace which would barely sustain the rated capacity of the boiler when fired with coal, would readily carry an overload of 25 per cent and sometimes 100 per cent. Instead of the firemen having to work their heads off in order to keep up steam, all it required was a twist of the wrist and the trick was done. If the setting cracked, or the stack was full of holes or an excess of air was admitted to the fire, steam could still be maintained by using more fuel oil. Those who were using care and judgment soon learned where the waste was and were able to correct the situation and profit by their experience. Others who did not go carefully into the causes of their troubles, gave up in disgust.

There should be no trouble in determining at what price oil can be depended on to give as economical results as coal in making steam, as it is generally conceded that one ton of oil will equal one and one-half tons of coal, and from this basis a fairly accurate comparison can be made. The saving in handling, absence of ashes and smoke and soot, and the general cleanliness and flexibility of the oil-fired unit, are all too well known to require more than bare mention.

Thus far our remarks have principally related to the transferring of the British Thermal Units in the fuel oil to dry steam at a proper pressure for doing useful work. It is a well known fact that the simple non-condensing steam engine delivers but a very small portion of the energy in the fuel to the shaft in shape for useful work. The compound, triple and quadruple expansion condensing engines have been by far the most efficient, although they are now equaled by the modern condensing turbine engines in efficiency, and excelled by the turbines in nearly every case where the higher speed of the turbines is not a disadvantage. Up until the last ten years or less the quadruple expansion condensing steam engine and the steam turbine running condensing, have been looked upon as the most efficient means of converting the energy contained in fuel into useful work. About 1897, however, a German engineer, whose name has since been world famous, completed his first engine operating successfully on a new principle, which has since been rapidly developed, and bears the name of its inventor, Doctor Rudolf Diesel. The Diesel principle eliminates all furnaces, boilers, steam pipes, and other like equipment, and burns the fuel direct in the cylinder of the engine. This is not done by exploding a charge suddenly by igniting an explosive mixture, as is the case in a gas or gasoline engine, but by continuing the combustion of the fuel over a considerable portion of the stroke of the piston.

The Diesel engine is of the four-cycle type, and on the compression stroke nothing but air is compressed, but the compression pressure is so high (450 to 460 pounds per square inch) that the air is heated to a temperature in the neighborhood of 1,000 deg. Fahr. This temperature is several hundred degrees higher than necessary to ignite the fuel. The charge of fuel oil is then atomized with air and sprayed into the cylinder, and burns as long as the admission is continued, which is during from 10 per cent to 12 per cent of the combustion stroke, and for some time thereafter.

Taking into consideration the fact that the ordinary Corliss engine has a thermal efficiency of only about 6 per cent, and the triplex expansion engine seldom over 17 or 18 per cent, the efficiency claimed by the makers of the Diesel engine of from 30 to 35 per cent shows a wonderful step forward in the economical conversion of fuel oil into work.

The development of oil as fuel was slow in getting started for marine use, and especially for Naval use. Once the United States and British Navies got started, though, the change has been very rapid. The advantages of fuel oil on shipboard are greater in many ways than in its use on land, for a number of reasons, some of which we will name:

1st Saving in weight
2nd Increase in room for cargo
3rd Decrease in men
4th Cleanliness
5th Ease in fueling, both at dock and at sea, in case of warships
6th Flexibility of fires
7th No ashes

8th On warships, oil can be carried in space which was useless for other purposes
9th Full speed can be made with practically no smoke trail to betray presence to enemies
10th If necessary a heavy smoke blanket or curtain can be made to cover the movements of vessels when maneuvering
11th Increase in speed.

The above and many more reasons apply in using fuel oil for generating steam at sea. An increase of 10 per cent in cargo or fuel-carrying capacity has been attained easily, and with the further saving to be made by Diesel engines over steam engines the total saving is shown to be enormous.

The present state of the art is being closely watched and it would appear that a few years will show an enormous increase in the number of Diesel engined ships. One of the first large ships of this class was the *Selandia*, now of the Hamburg-American Line. She is of 10,000 tons displacement, 370 feet long, and 53-foot beam, driven by two 1,250 brake horse-power Diesel engines, connected to twin screws. This vessel has traveled thousands of miles, and at last accounts was proving to be all that was expected of her. Since then a large number of these ships have been put in commission, and the German government has a ship equipped with Diesel engines of 12,000 brake horse-power. These engines are reported to be easily handled and are reversible the same as steam engines, one engine being able to reverse from full speed ahead to full speed astern in less than half a minute.

With main engines of 2,500 brake horse-power and auxiliaries of 500 brake horse-power, the *Selandia* consumes 9½ tons of fuel oil per day at 12 knots, and she is able to carry 1,000 tons of oil in her double bottoms. This would be sufficient fuel oil to take her practically around the world, and it is all stowed in space that otherwise would be of but little use. In addition to these advantages, the amount of fresh water used is so much smaller that another large saving is made.

An interesting performance was concluded on March 19, 1914, by the SS. *Santa Cruz*, burning oil exclusively. She made the trip from Sandy Hook via the Straits of Magellan to San Francisco, approximately 13,000 miles, without stopping her engines, in 47 days and 4 hours, or an average of nearly 11½ knots per hour.

It is possible to burn practically any class of fuel oil which is suitable for steam-making purposes in a Diesel engine; but the makers of the Diesel engine recommend a somewhat better grade of fuel for their engines, on account of the longer life and greater reliability of the engines.

Although very large engines of this class have been built for marine work, the greater number in use in the United States are of not over 225 horse-power. No doubt the sizes in general use will increase rapidly as they are more generally introduced.

The relative economy of the simple steam engine and condensing engine as compared with the Diesel engine, is claimed to be about as follows by the Diesel engine builders:

Diesel Engine.....10 Bbls. Fuel Oil
Condensing Steam Engine ..50 Bbls. Fuel Oil
Simple Steam Engine.....90 Bbls. Fuel Oil

From this it can be readily seen that the Diesel engine owner can afford to pay for a better grade of oil than the ordinary fuel, and will be well repaid for the extra outlay. In the meantime the producers of fuel have in sight an increasing outlet for the better grades of their fuel oil production.

PLAYING CAVE MAN'S GAME FROM AUTOMOBILES

So far as is known, the oldest athletic sport consisted of a game in which the contesting parties strove to club a stone to opposite goals. Scientists advance the theory that back in the Pliocene age our ancestors so amused themselves when they had nothing better to do—and perhaps when they did. That original game of the cave man has been handed down in various forms. The Scots developed one variation and called it "golf," the Irish another known as "hurling." The American Indian played it, too, and his variation was named "lacrosse" by the French Canadians. "Shinny" and "old sow," the schoolboys' games a generation ago, and "hockey" are closer to the original than any of the others. English army officers in India found it played there on horseback by the native princes. They took it up and called it "polo," and introduced it into Europe about the time of the Civil War in America. Yankee promoters looking around for a new game that the public would pay money to see, hit upon the idea of polo played from automobiles instead of horses. That's the very latest variation. Auto polo was first played at Madison Square Garden, New York, and since then traveling teams have played games in various parts of the United States.—*Standard Oil Bulletin.*

BY THE WAY

My husband is traveling salesman for The Texas Company in the El Paso Division and so, of course, I feel like one of you. I enjoy reading *The Texaco Star*—have not missed a copy.

I use *Quick Work Silver Polish* and find it a pleasure to polish my silverware with it, but more of a pleasure to have beautiful clean silverware.

Am enclosing a picture of the youngest "booster" of Texaco Products in the Pecos Valley. His name is "Ted" Meece and he is ten months old.

Yours very truly,

Roswell, N. M., May 4, 1914. Mrs. C. S. Meece.

★ ★

A new field for the use of oil fuel has been initiated by the Federal Government at Fort Baker, California, where fuel oil is distributed by pipes, just as water and gas are commonly distributed throughout town for domestic and commercial purposes. The oil is delivered at residences and other buildings under a pressure of 30 pounds. It is used for cooking, in furnaces for heating, and in power engines. This installation at Fort Baker and the newer one at the Presidio, San Francisco, are said to be the first of their kind. The system consists of storage and distributing reservoirs, oil pipe lines and pumps, and air pipe lines and compressors. All the burners are of the air-mixing type. The air lines are laid in the same trenches as the oil pipes, motor-driven air compressors furnishing the air under about 2 pounds pressure. Care had to be taken to make the wrought steel oil pipes tight, and to provide for expansion and contraction by inserting U-bends bedded in sand every 300 feet.

After experimenting on several types of fuel oil burners the Government has decided on introducing oil fed ranges for cooking purposes on its new battleships beginning with the *Pennsylvania*. The advantages are economy, cleanliness, and efficiency. As the new battleships will burn fuel oil, a supply for cooking purposes will always be in readiness. The cost of cooking has worked out as follows, per day: Electric range, $22.50; coal range, $16; oil range, $5.65.—*Oildom.*

★ ★

Out of every 100 bottle-fed babies an average of 30 die in the first year, while of the breast-fed babies only about 7 out of every 100 die in the first year.—*Texas State Board of Health.*

★ ★

The official gazette of the district of Ensenada, Mexico, reports an analysis of the bark of the cactus plant known as pitahaya dulce (*Cereus thurberi*). The analysis indicates, U. S. Consul Guyant says, that the resin content of the dead plant is sufficient in quantity and easily enough extracted to make its utilization practicable. The pitahaya grows wild in Lower California, and may have a great industrial future. This resin could be employed advantageously in the manufacture of varnishes, soaps, colors, electric insulators, etc. It is of a dark amber color, limpid, sufficiently hard at ordinary temperatures, surface very smooth, and very adhesive when heated.

★ ★

"Of course you have your little theory about the cause of the high cost of living?"

"I have. Too many people are trying to make political economy take the place of domestic economy."

"Rogers claims to be an agnostic, doesn't he?"

"Only as to religion; as to everything else he knows it all."—*Boston Transcript.*

"How can you expect me to put money into this business? I don't know anything about it."

"Well, that was one of the reasons why I expected you to put money into it."—*Chicago Record-Herald.*

A traveler noticed that a farmer was having trouble with his horse. It would start, go slowly for a short distance, and then stop again. Thereupon the farmer would have great difficulty in getting it started. Finally the traveler approached and asked:

"Is your horse sick?"

"Not that I know of."

"Is he balky?"

"No, but he is so danged 'fraid I'll say whoa and he won't hear me, that he stops every once in a while to listen."—*Saxby's Magazine.*

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.	W. L. Conover, Houston. A. R. Weber, New York.
Legal Dept.	F. C. Pannill, Houston.
Treasury Dept.	Lee Dawson, Houston.
Comptrollers' Dept.	B. E. Emerson, Houston. J. R. Pouncey, New York
Sales Dept., S. Territory	D. A. Vann 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.	C. S. Young, Houston.
Producers	P. C. Harvey, Houston.

FUEL OIL DEPT.

Ass't Manager L. F. Jordan of Fuel Oil Dept., Chicago, is able to be out again after a hard tussle with rheumatism.

J. B. Duke, having been transferred to the position of Secretary to the Executive Committee at Houston, W. W. Moore from the General Office is now stenographer for Vice-Pres. Noble.

REFINING DEPT.

P. C. Scullin returned to Houston May 19 after spending three weeks in Salt Lake City, Utah.

W. I. Hunter has resumed his duties after an absence of five weeks, due to sickness. We are glad to note that Mr. Hunter is improving rapildy.

E. C. Rowe, formerly connected with the Refining Department Engineering force, has accepted a position with the United States Engineering Corps, A. C. Kellersberger has been employed to succeed Mr. Rowe.

We offer congratualtions to Mr. and Mrs. H. D. Gibson. A 104 ounce girl arrived at their home May 29. Mr. Gibson is bookkeeper in the Refining Department, Houston.

A. D. Smith, of The Texas Company laboratory force, and Miss Nellie Glidden, daughter of Mr. and Mrs. E. C. Glidden, were united in marriage at the home of the bride's parents at Seventh and Lake Charles Streets, Port Arthur, at eight P. M., May 22. Rev. C. F. Pearce performed the ceremony in the presence of relatives and a few friends of the young couple. Mr. and Mrs. Smith will make their home at 415 Thirteenth Street, Port Arthur.

W. W. Wynne, formerly stenographer at our West Dallas Works, resigned his position April 5. E. B. Thompson has been employed to succeed Mr. Wynne.

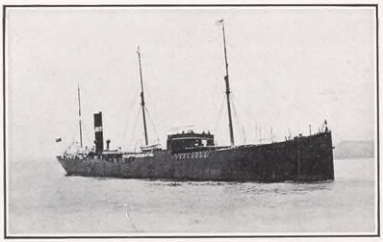
A. H. Rickett of the laboratory force at Delaware River Terminal resigned his position April 6.

We take pleasure in announcing the marriage of William Kneisler, Superintendent of Providence Terminal, to Miss Lula Hall of Beaumont. The ceremony was performed May 10 in the presence of relatives and friends. Mr. and Mrs. Kneisler left for Providence, where they will be at home to their many friends.

A. M. Tait has been employed to do the stenographic work at Portland Terminal.

MARINE DEPT.

The Belgium tank steamship *Brabant* (*ex Geestemunde*), owned by the Continental Petroleum Company and time chartered to The Texas Company, steamed from New York May 12, after undergoing extensive



repairs and renewals for reclassification. The *Brabant* is bound for Tampico, Mexico, under the command of Captain Sverre Petersen. Captain Petersen has been officer in our ships for a number of years, his last previous berth having been that of First Officer of the steamship *Illinois*.

Carl Kistler, who was loaned for service in Tampico, Mexico, to initiate and place on a proper basis an accounting department for the Panuco Transportation Company, has completed that work and returned to the Marine Department, New York, where he has resumed his former duties. Mr. Kistler turned over the Accounting Department of Panuco Trans-

portation Company to Mr. Gerald Harvey.

We are pleased to announce that J. E. B. Stuart, formerly statistician of the General Department, New York, has associated himself with Marine Department and is

engaged in statistical and other special work for this Department. In the multiple-mirrior photograph shown in the accompanying cut, Mr. Stuart appears to be in very earnest and aggressive consultation with himself.—Ed.]

"English as she is wrote." Here is a letter received by the Marine Department in connection with a bill for some work on one of our ships:

"Dear Sir: I thought I would drop you a line in regards to the bills on this steamer the Captain engaged me to look out for the work and when I went to get the bill signed he refused he said it was robbery you can enquire at any agent in the city and they will tell you the same."

Yours truly, ———.

TREASURY DEPT.

Effective May 1, 1914, Ernest Carroll, Assistant Treasurer, was appointed Assistant to the Second Vice President. While this Department regrets exceedingly the loss of Mr. Carroll, we were glad to see him secure this promotion. This change was no great surprise to the men who knew Ernest; for, with his natural ability, together with his thorough familiarity with the Company's business, a forward step was bound to come. We extend to him our hearty good wishes for success in the Executive Department.

Guy Carroll, Assistant Treasurer, has succeeded Ernest Carroll in the active duties of that position.

Scott Ford, formerly hall boy, has been made file clerk to Lee Dawson, Secretary to the Treasurer.

H. S. Ferrell, our Multigraph operator, is a married man now. A week after his return from the Border (where he had been with the State militia) he was missing for a day, and when he turned up the following day he was married. He married Miss Hallye Rutherford of Brunner. Her father, A. P. Rutherford, is a constructional engineer of note. Congratulations.

Treasurer Green is still holding on to Vice President Holmes' scalp at golf but is daily in expectation of having to return it, together with his own.

Practically every member of this Department attended our annual picnic, and all appreciated the successful efforts of our Port Arthur relatives to give us a good time. "Wasn't that fried fish bully?"

COMPTROLLER'S DEPT.

Even as April 21 marks the victory of the Texans over the Mexicans in the war for independence, so also does it mark the victory of Cupid over Thomas A. Pendarvis; for on April 21, 1914, Tom surrendered to Cupid in the form of Miss Marguerite Lehman. The Comptroller's Department extend to Mr. and Mrs. Pendarvis their heartiest congratulations and best wishes for a long, happy, and prosperous future.

After completing the audit of the Houston District Office, Auditors Horrigan and Elliott have moved on to New Orleans to begin an audit of that office.

C. V. Webb, formerly in the lumber business in this city has entered the employ of The Texas Company as a stenographer in the Comptroller's Department.

K. C. Hover, for the past few months with the G. C. & S. F. Ry. Co., at Cleburne, Texas, has entered the service of the Company as bookkeeper in the Comptroller's Department.

W. W. Moore, stenographer in the Comptroller's Department, has been transferred to the Fuel Oil Department as stenographer for Manager G. L. Noble.

A. R. Megarity, after spending a two-weeks vacation on a visit home in the northern part of the State, has returned and again settled down to work assisting Auditor of Disbursements Rainey.

W. G. Howland, Secretary to the Comptroller, and H. M. Hawley have returned after a two-weeks vacation.

J. D. Dickson is now on his vacation, which, we understand, he is spending in the practice of vocal music in the piney woods of Brunner.

Latest rumors are that Manager Red-

man of the "Pen Pushers" of Houston, after his team defeated the Port Arthur "Spaders" at the picnic, has been offered the berth of manager of the San Antonio "Bronchoes." Nothing definite can be said on this as Mr. Redman will neither confirm nor deny the report.

SALES DEPT. S. TERRITORY

Manager C. E. Woodbridge, Sales Dept., N. Territory, spent a week in Houston the latter part of May, and his visit was enjoyed by all.

D. C. West, clerk and warehouseman at Hugo, Oklahoma, resigned on April 1 and was succeeded by R. T. Durrum.

The following new Salesmen and Agents are welcomed into the Southern Territory sales organization:

Houston District

Beeville, Tex.	J. S. Pagel, Agt.
Ceuro, Tex.	S. C. Smith, Agt.
Giddings, Tex.	E. M. Collier, Agt.
San Marcos, Tex.	J. F. Storey, Agt.
Houston, Tex.—Hdq.	G. R. Graves, Salesman

Dallas District

Alvarado, Tex.	J. T. Gibson, Agt.
San Saba, Tex.	I. N. May, Agt.
Dallas No. 2 Fill. Sta.	A. A. Barbay, Agt.
Tyler, Tex.	T. E. Hogg, Agt.
Hillsboro, Tex.	G. W. Twitty, Agt.

El Paso District

El Paso, Tex.—Hdq.	R. L. Howell, Salesman

Pueblo District

Longmont, Colo.	B. I. Barnes, Agt.

New Orleans District

Biloxi, Miss.	W. W. Baltar, Agt.

Birmingham District

Bessemer, Ala.	A. N. White, Agt.
Birmingham, Ala.	J. H. Lucas, Act. Agt.
Dothan, Ala.	J. W. Coker, Agt.
Selma, Ala.—Hdq.	S. W. Burbage, Salesman
Birmingham, Ala.—Hdq.	H. Flora, Salesman

Atlanta District

Atlanta, Ga.	W. H. George, Agt.
Charleston, S. C.—Hdq.	O. L. Wilson, Salesman
Spartanburg, S. C.—Hdq.	M. C. Sanders, Salesman

From Houston District.—At Bay City, Texas, one of the stations in Houston District, on account of rains and high water our agent was forced to discontinue using tank or can wagon. He thereupon made bulk deliveries from a rowboat, taking care of all his regular customers and a good many of the competitors' customers. We secured considerable free advertising throughout that territory on account of the resourcefulness of our representatives.

Friends and acquaintances of T. E. (Tom) Meece, Salesman in the Houston District, will regret to hear of his recent misfortunes; his nine-year-old daughter is in the hospital recuperating from a serious operation, and while she was seriously ill Mr. Meece's father was stricken and died at Livingston, Texas. We extend to him our sincere sympathy.

The Southwestern Gas and Electric Company had their annual meeting at Galveston May 20-23, inclusive. Superintendents R. E. Armstrong (Houston District) and W. H. Noble (Dallas District) and Manager Thorp of the Lubricating Division, were in attendance. The convention was a success in every respect and our representatives secured some nice business while there—contract and otherwise.

From Atlanta District.—During the month of April new stations were opened at Albany, Waycross, and Valdosta in the State of Georgia, and negotiations have been begun for lease of land to construct necessary buildings for new station at Rome, Ga. The three stations first mentioned are already in operation and the outlook for business is very promising.

W. H. George took charge of the Atlanta station as Agent on April 1, and in spite of the handicap of having worked for competitors at one time in his career, has been showing some notable results. During the month of April sales of Texaco Motor Oil in the City of Atlanta increased nearly 400 per cent over March.

J. H. Lucas was appointed Agent at Birmingham, effective May 1. The gallonage handled by this station will effectually prevent Mr. Lucas from regarding himself as a gentleman of leisure.

F. K. Dorrance, Supt. Roofing Division, has been transferred from Atlanta to Houston, and all roofing business in the Atlanta and Birmingham Districts is now being handled direct by Superintendent Cook in Atlanta.

The annual convention of the Shriners, held in Atlanta during the week beginning May 11, was a success from every point of view. The City was lavishly decorated, and so were Dept. Agent L. A. Smith of Houston, Supt. W. H. Noble of Dallas, Asst. Supt. Brayton Armstrong of Birmingham, Agent H. W. Patterson of Mobile, Salesman C. S. Campbell of Mobile, and Salesman W. P. Latting of Columbus, Ga. Supt. Cook's magnificent two-passenger Ford, gaily decked out with flags

and bunting, conscientiously did its three-cylinder best to keep up with the visitors and received an occasional cheer as they passed by. On his way back to Dallas Supt. Noble stopped off for a day's visit with Ass't Supt. Armstrong at Birmingham, and also at New Orleans with Supt. Jones.

Texaco Gasoline scored another triumph during the automobile races at Macon and Augusta in April. The drivers in these races were of national reputation, and after the races, addressed the following letter stating that they were so well satisfied with the quality of The Texas Company gasoline that in the future they would use nothing else.

Macon, Ga., April 15, 1914.

Mr. W. G. Craig, Agent,
The Texas Company,
Macon, Ga.

Dear Sir:—We wish to congratulate The Texas Company on the excellent quality of gasoline which they are producing.

We find Texaco Gas to be of uniform body always, and we do not experience any difficulty whatever with "rich" and "lean" spots so common in some gasolines, which as you know are very detrimental in racing cars.

We have always used Texaco Gas and will continue to do so.

Wishing you continued success with Texaco products, we are,

Yours very truly,
Louis Disbrow
Johnny Raimey
Eddie Hearne
Lou Heinemann
Fred Houx

Texaco Gasoline also won the Hill-climbing Contest held in Atlanta on May 9, and the winning car, a National driven by Bruce McKerall, was said to have made the fastest time ever made by a National Car in a similar event. Mr. McKerall, after the contest, expressed his appreciation of Texaco gasoline in the following letter:

Atlanta, Ga., May 25, 1914.

Mr. W. H. George,
The Texas Co.,
Atlanta, Ga.

Dear Sir: I feel indebted to you for the splendid results obtained from use of your gasoline in the recent hill climb. After trying out two other makes, I found yours far superior and in fact gained from one to one and half seconds on a mile course.

Yours very truly,
W. Bruce McKerall.

Agent Craig became so enthused in pushing Motor Oils with the auto racers, that he carried a supply by Auto from Macon to Augusta to insure an adequate supply for Louis Disbrow and his racing team in the Augusta races. The team was under contract to use competitive oils, but discontinued them on account of carbon trouble, which Mr. Disbrow stated was never experienced with Texaco Motor Oil.

From Pueblo District.—Second Vice Pres. T. J. Donoghue and Asst. Sales Manager F. W. Freeman paid the Pueblo Office a visit on May 14.

Craig Harris, Special Representative of the Roofing Division, is working this territory during May.

New Stations at Ft. Morgan, Sterling, Longmont, Ft. Collins, and Rocky Ford, will all be completed by June 1. This will make a total of seventeen stations in the Pueblo District and will give us much better facilities for supplying our trade.

On June 1 the Tourist Season will open. We expect record breaking sales of Texaco Motor Oils and feel sure that some of the larger Districts will have to go some to catch us.

Wells Littlefield, Agent at Denver, has been given a three months leave of absence and will leave on May 26 for a tour of Europe. Salesman J. A. Howser, Lincoln, Nebraska, will act as Agent during Mr. Littlefield's absence.

H. E. Johnson, formerly Agent at Billings, Mont., now Manager of the Western Oil Company, Butte, Mont., reports good business and states that he expects to move considerable Texaco products in his territory during the present season.

From Lubricating Division.—Any of the Texaco Representatives finding trade who feel that the use of Texaco Lubricants would be more or less of an experiment, can secure definite information by corresponding with the Lubricating Division, through District offices, regarding the largest sawmills, the largest iron and steel mills, the largest cotton goods mills, the largest cotton oil mills, the largest traction companies, the largest cement plants, the largest smelters, the largest steam railways, the battleships, etc., The Texas Company is successfully lubricating. If you have a plant of any class whose trade you cannot secure through lack of confidence in Texaco Oils, write for a list of plants in similar lines who have used Texaco Lubricants successfully.

In the By the Way section of the April issue mention was made of an unusual record established by Texaco Cetus Oil in a 750-kilowatt Westinghouse steam turbine in the plant of the C. & A. Mining Company, Douglas, Ariz., operating under a steam pressure of 148 pounds, 75 degrees superheat, speed 3,600 revolutions per minute, daily service 24 hours, the oil then having been in continuous service slightly over a year, the average monthly addition to replace evaporation and general wear, being about two gallons per month. Latest report shows this oil is still in the system, running apparently as good as ever. A sample was withdrawn several weeks ago and chemical analysis shows a slight increase in viscosity, and color somewhat darker than the standard for this product, the sample also responding slightly to the precipitation test. Its general lubricating value, however, is scarcely impaired. This, after a year's hard service in the circulating system of a large steam turbine, is truly remarkable. Especially is this apparent when it is remembered that U. S. Government specifications on Turbine Oil require the oil to hold up but 90 days. In Texaco Cetus Oil we have a steam turbine lubricant that is a world beater. Mr. T. L. Morris, Special Lubricating Representative, New Orleans District, promises additional interesting facts, having recently arranged to install Cetus Oil in a new 2,000-kilowatt Curtis Steam Turbine running 1,800 revolutions per minute. Conditions will be observed very carefully and a sample withdrawn for chemical analysis every 30 to 60 days while the original charge remains in the system.

Supt. M. J. Monroe, Pueblo District, leads the South during the first three months of the year in Motor Oil sales. For the month of April, Dallas District ranks first, W. H. Noble, Supt.

Messrs. Fegan of El Paso and Reynolds of Atlanta are again among the leaders in the Lubricating Honor Roll for April. The new additions to the Honor Roll are Barton of Pueblo, Campbell of Birmingham, Thompson of Atlanta, Comeaux of New Orleans, Meece of Houston, and McAdams of Dallas Districts.

Supt. R. E. Armstrong, Houston District, still leads in volume of future orders booked for delivery during Harvest, with Supt. M. J. Monroe, running close second

A second supply of 30-gallon iron drums for Motor Oil is being arranged for the Southern Territory. As soon as distribution has been effected, results obtained in the different districts will be compared in these columns.

Salesman M. A. Dyer, Atlanta District, continues sending reports noticable as showing observance of the Sales Department's injunction, "THE WHOLE LINE ALL THE TIME."

A number of T. W. Silva's (Atlanta District) recent reports reflect equally persistent work.

A recent report of P. H. Burger, Houston District, shows 9 sales, covering 17 different products, as the result of one day's solicitation.

W. E. Bradford, Dallas District, is showing remarkable gains in the way of getting his trade under contract for lubricating needs during the crop season.

R. W. McLaurin, Agent, Jackson, Miss., suggests framing one of his recent sales reports. It was not framed because of greater convenience in passing it around to the various Executives for observation, some very flattering comments being made.

F. H. Sullivan, a comparatively new salesman in the Houston District, leads the District in Specialty Sales during March and April, selling more than half of the total quantity of Home Lubricant sold during the two months. Average Specialty sales to the stores called on is one in three. Aside from Home Lubricant, other Specialties sold are Floor Oil, Liquid Wax Floor Dressing, Harvester Oil, Harness Oil, Compound Harness Oil, Castor Axle Oil, and Quickwork Polishes. This record is particularly gratifying for the reason that Mr. Sullivan's predecessors failed to develop any Specialty business worth mentioning, it being maintained no market existed in that territory,—cut-over timber country of East Texas. The record has called forth favorable comment, and it is said by those who know him best, that the Specialty line is not the only one records will be broken on. Lines are said to be laid for big fish. In the meantime, it is to be remembered that The Texas Company offers in Petroleum Products what the retail merchant wants, i. e., in goods—uniform quality, sound

value, individuality in packages, and a fair margin of profit; in service—prompt deliveries, privilege of making small orders, and protection against overstocking.

H. Flora, Birmingham District, formerly Motor Oil salesman in the Chicago District, recently moving South, closed lubricating contract in his first day's work in the Southern Territory.

Special Lubricating Representative, J. E. Taylor, Dallas District, is now engaged in special demonstration work in the Arizona Copper country. Reports show gratifying progress.

During March Supt. H. N. Cook, Atlanta District, inaugurated a prize contest among the tank wagon drivers for the largest average gain in sale of kerosene, gasoline, and Specialties. E. A. Rogers, Atlanta, Ga., won first prize, with an average increase in sales over the preceding month of 814.90 per cent. J. W. Kirkland, Atlanta, won second prize. Honorable mention is also given the following, whose sales averaged over 100 per cent increase over the preceding month: G. A. Berry, Montgomery, Ala., W. C. Lindsay, Decatur, Ala., K. Baldwin, Mobile, Ala., H. L. Parsons, Huntsville, Ala., W. H. Greer, Macon, Ga., W. W. Wright, Atlanta, Ga., E. J. Easterling, Columbia, S. C., S. Brown, Atlanta, Ga.

EFFECTIVE JULY 1, 1914, THE ORGANIZATION OF SALES DEPARTMENT, SOUTHERN TERRITORY, WILL BE AS FOLLOWS:

The organization shall consist of two parts—

(a) *Sales Manager and those directly assisting him,* who for the purposes of this memorandum may be designated as the *Staff:*

C. P. Dodge.....Manager
.....Representative
D. A. Vann .....Assistant Manager
L. E. Thorp.....Manager Lubricating Division
W. E. O'Neill.....Manager of Roofing Division
J. C. McCullough...Superintendent of Equipment and Construction
L. A. Smith.....Department Agent
with headquarters in the Houston Office.
H. Tipper .....Manager Advertising Department
with headquarters in the New York Office.

(b) *District Superintendents and those assisting them:*

	Atlanta District	New Orleans District	Houston District	Dallas District
Superintendent	H. N. Cook	M. G. Jones	*	W. H. Noble
General Assistant	B. F. Johns	A. Mathis	W. S. Gosney	J. D. Turner–W. E. Bradford
Lubricating Assistant	Wm. Reynolds	T. L. Morris	P. H. Burger	J. E. Taylor
Chief Accountant	W. F. Murdy	R. E. Fuller	J. E. W. Herndon	E. H. Browder
Operating Inspector				
Salesmen and Agents				

	Oklahoma District	Pueblo District	El Paso District	Birmingham District	Central America District
Superintendent	R. C. Galbraith	M. J. Monroe	W. H. Wagner	H. N. Cook, Atlanta	M. G. Jones
General Assistant	A. T. Smith		H. D. Deacon	B. Armstrong, Birmingham	J. A. Gray
Lubricating Assistant				C. S. Campbell	
Chief Accountant	O. R. Parris	Tom Fulton	L. H. Daniel	T. E. Goodwin	
Operating Inspector					
Salesmen and Agents					

* R. E. Armstrong assigned to special work in Sales Manager's office.

F. W. Freeman, Western Representative, with Denver, Colo., headquarters, will have general supervision over Sales Department matters in El Paso and Pueblo Districts, and will be responsible for such to the Sales Manager.

There will be a Committee to be known as the *Managing Committee,* consisting of the Sales Manager, the Representative, and the Assistant Manager, with the Sales Manager as Chairman. This Committee will meet frequently to consider matters presented for special consideration outside of the regular meetings of the Staff or meetings of the Staff and Superintendents.

The Representative will be responsible to the Managing Committee. He will investigate and

report on the conduct and general efficiency of the department and will make recommendations for the purpose of improving the same.

The Assistant Manager will be responsible to the Sales Manager. He will have general direction of the department.

The Manager of the Lubricating Division will supervise—

The Marketing of Lubricating Oils, and the Technical Matters which may be involved in connection therewith.

He will confer freely with the Manager or Assistant Manager, especially on such matters as cannot properly be settled by himself or by conference with other Staff members, or District Superintendents especially interested in the subject-matter. In case of failure to reach a conclusion with the Assistant Manager the matter may be referred to the Manager, or, in his absence, to an executive officer.

The Manager of the Roofing Division will supervise—

The Marketing of Roofing and Roofing Asphalt in the Territory assigned to him.

He will confer freely with the Manager or Assistant Manager, especially on such matters as cannot properly be settled by himself or by conference with other Staff members or District Superintendents especially interested in the subject-matter. In case of failure to reach a conclusion with the Assistant Manager the matter may be referred to the Manager, or, in his absence, to an executive officer.

The Superintendent of Equipment and Construction will supervise—

The Construction, Maintenance, and Repair of Refined Stations and Equipment and Other Portable Property used by the Sales Department.

He will prepare estimates of cost covering new installations and equipment. He will confer freely with the Assistant Manager, especially on such matters as cannot properly be settled by himself or by conference with other Staff members or District Superintendents especially interested in the subject-matter. In case of failure to reach a conclusion with the Assistant Manager the matter may be referred to the Manager, or, in his absence, to an executive officer.

The Department Agent will supervise—

Accounting—Credits and Collections.

He will confer freely with the Manager or Assistant Manager, especially on such matters as cannot properly be settled by himself or by conference with other Staff members or District Superintendents especially interested in the subject-matter. In case of failure to reach a conclusion with the Assistant Manager the matter may be referred to the Manager, or, in his absence, to an executive officer.

District Superintendents will have supervision and direction of all matters in their respective districts.

District Superintendents will confer with the Manager of the Lubricating Division on matters relating to the marketing of lubricating oils and technical matters relating thereto, and in case of failure to reach a conclusion the matter may be referred to the Manager or Assistant Manager.

District Superintendents will confer with the Sales Manager on matters relating to the marketing of Asphalt and Road Oil and technical matters relating thereto.

District Superintendents will confer with the Superintendent of Equipment and Construction on matters relating to the construction, maintenance, and repair of refined stations and equipment and all portable property used by the Sales Department in their districts respectively, and in case of a failure to reach a conclusion the matter may be referred to the Assistant Manager.

District Superintendents will confer with the Department Agent on matters relating to accounting, credits, and collections in their districts respectively, and in case of a failure to reach a conclusion the matter may be referred to the Assistant Manager.

On all other matters District Superintendents will confer freely with the Assistant Manager.

In case of a failure of the District Superintendent to reach a conclusion with the Assistant Manager on any matter, the same may be referred to the Manager, or, in his absence, to an executive officer.

DISTRICT OFFICE ORGANIZATION

In district offices the General Assistant, Lubricating Assistant, Chief Accountant, and Operating Inspector will be directly responsible to the Superintendent; in the absence of the Superintendent, the Lubricating Assistant, Chief Accountant and Operating Inspector will confer with the General Assistant and be governed by his instructions on matters requiring decision during the Superintendent's absence.

SALESMEN AND AGENTS

Agents will report to the Superintendent, or Operating Inspector, in their respective districts.

Salesmen will report—

On Lubricating Matters, to the Superintendent who will refer to the Lubricating Assistant.

On Matters relating to Credits they will report to, or confer with the Chief Accountant.

On Other Matters, to the Superintendent.

MEETINGS

There will be a meeting of the *Staff* at least *once a week*, to be presided over by the Assistant Manager.

There will be a *Quarterly Meeting of the Staff and District Superintendents*, upon call of the Manager, which will be presided over by the Manager; in his absence, by the Assistant Manager. The Operating Inspectors and Lubricating Assistants will attend upon request for conference.

In each District there will be *Meetings of Salesmen and Agents* at such times and places as may be designated by the District Superintendent, which will be presided over by the District Superintendent, and at which the Representative, Managers of Lubricating Division and Roofing Division, Superintendent of Equipment and Construction, and Department Agent may attend on invitation of Superintendent.

There will be an *Annual Meeting of Chief Accountants* which will be presided over by the Department Agent.

There will be *Semi-annual Meetings of Lubricating Assistants* which will be presided over by the Manager of the Lubricating Division, which meeting Engineers of his staff and other Engineers employed in the District Offices will attend by invitation.

GENERAL

Members of the Staff and District Superintendents requiring the counsel, advice, or direction of the Manager or Assistant Manager can,

in the absence of both, feel free to confer with an executive officer.

Controversies or differences of opinion between members of the Department which cannot be settled between themselves or by reference to the Assistant Manager can be referred to the Manager, or, in his absence, to an executive officer for decision.

C. P. Dodge,
Sales Manager.

Houston, Texas,
June 8, 1914.

SALES DEPT.
N. TERRITORY

It has been decided that the Correspondence School should be known as the Texaco Correspondence School, with Dr. L. H. Canfield as Educational Director, and with a Board of Advisors. This Board has been appointed, consisting of the following:

F. D. Gatchell,
W. F. Parish,
K. G. Mackenzie,
C. H. Parker,
J. T. Groves,
G. R. Rowland.

G. E. Forgo has been engaged to act as Dr. Canfield's assistant in charge of records and papers.

C. C. Beasley has been transferred from Agent at Charlotte, N. C., to Assistant Operating Inspector, Norfolk District.

C. E. Krause, formerly Assistant Operating Inspector, Norfolk District, has been transferred to Special Representative.

Roy P. Beall joined the Company on May 1 as General Salesman, Norfolk District.

Joe Tinney, who solicits Government business in the Philadelphia District, was recently operated on for appendicitis.

R. W. Cunningham, Lubricating Representative, Philadelphia District, has been in a hospital for several weeks recovering from a serious operation.

Regarding our suggestion that Mr. Rowland's new boy should be named "Crater," we were somewhat disappointed to find that our suggestion was not accepted and that the boy was christened Ross. We appreciate, however, the fact that the spirit of our suggestion was taken, inasmuch as P. Sanford Ross was our first customer for Crater Compound and is now one of our largest users of this product.

The Battleship *New York*, which made a remarkable run to Vera Cruz this month, was lubricated with our Texaco Ursa Oil. This oil was put aboard the ship on a special requisition, and during her dock trials last month everything was very satisfactory. Owing to the war trouble, the ship was placed in commission very hurriedly and sent South without any preliminary speed trials. The fact that this great battleship was able to go to sea without preliminary running-in reflects very considerable credit upon the lubricating oil. The running-in, as is indicated by its name, is simply the process of getting the bearings in shape. All the battleships are tried out carefully and nursed along until all of the bearings are in good condition, after which their high speed trials are made. This preliminary work was not possible with the *New York*, and it is doubtful if it is necessary with such good lubricating oil as Texaco Ursa in the system.

We send a photograph showing our newly opened Gasoline and Motor Oil Supply Station, located on the Old York Road at Spencer Street, Philadelphia, Pa. This is the main thoroughfare from Philadelphia to the towns of Pottstown, Reading, Allentown, Bethlehem, and Easton, Pa., and passes through the Delaware Water Gap and winds up in the Pocono Mountains. The latter two points are the most famous spring, summer, and fall pleasure resorts in the State of Pennsylvania. Burried under the sidewalk in front of this building are five 550-gallon gasoline tanks from which there is pumped directly into the tanks of the automobiles high grade and efficient gasoline. In the rear of the building is a stable with room for three horses. Buried in the rear is a 2,000-gallon kerosene storage tank, which is filled by auto tank trucks from our Philadelphia Refined Station. The wagon stabled at this point covers the kerosene trade in the territory tributary to the Filling Station. This is the original Filling Station established in the Philadelphia District.

RY. TRAFFIC DEPT.

E. T. Russell, Foreman of Car Department at Port Arthur, has been sent to Milton, Pa., to inspect new tank cars being constructed at that place.

Division Traffic Agent E. C. Guion visited New Orleans recently in the interest of traffic matters at that point.

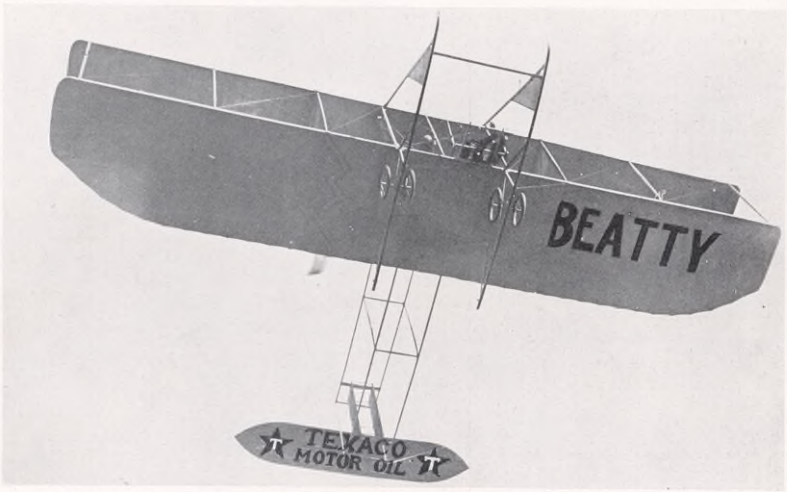
T. S. Moyer, in charge at Trice Station, was recently sent to Sugarland, Texas, to adjust a claim, and proved himself a finished diplomat. We should not be surprised if the National Administration

enlists the services of Mr. Moyer in adjusting the Mexican trouble.

E. V. Hunt has resigned his position as stenographer in Traffic Agent Guion's office and has departed for South America. Mr. Hunt was succeeded by G. R. Alexander, who was transferred from the Telegraph Division.

Thos. Boyle, Car Inspector at Trice, Texas, visited Houston recently and expressed his surprise at the growth of the City since his previous visit.

Filling Station on the Old York Road, Philadelphia, Pa. Original station in the Philadelphia District.



Aviator Beatty, showing Texaco Motor Oil advertisement.

SUGGESTIVE INDEX OF CURRENT ARTICLES

THE MAIN INTEREST IS INDICATED BY CLASSIFICATION OR BRIEF COMMENT

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

EXECUTIVES Standing Up for Your Profit, by Wheeler Sammons—*System*, May, 1914.
Profit is the owner's return *for risk* taken in providing for the wants of customers and the community. Profit is not interest on investment, it is not salary for management. Those are items to be paid before the question is decided whether a business is earning any true profit.

The Package and the Price—*N. Y. Times Annalist*, May, 18 1914.
Demand of the consumer for package goods. Leading manufacturers explain why the carton has come to stay.

NATURAL GAS Magnitude of Natural Gas Industry—*Electrical World*, April 11, 1914.

FUEL OIL Fuel Oil Storage and Distributing Facilities—*Ry. Review*, March 7, 1914.

REFINING The Handling and Storage of Inflammable Liquids Without Danger of Combustion, by P. Munie—*Bulletin de la Societe d' Encouragement*, Paris.
Details of system for safely handling and storing large quantities of gasoline.

Crane for Handling Asphalt—*The Iron Age*, April 9, 1914.
Special bucket type for unloading steamers.

Preventable Losses in Factory Power Plants. IV. The Boiler Plant, by D. M. Myers—*The Engineering Magazine*, May, 1914.

"Keeping Tab" In Industrial Plants, by P. Lundeley—*Practical Engineer*, Jan. 1, 1914.

Cost Accounting by Machines, by S. G. Koon—*American Machinist*, March 26, 1914.
Arrangements and forms for using tabulating machines for cost records.

The Art of Making Rapid and Reliable Preliminary Estimates of Cost, by Allen Hagen—*Engineering and Contracting*, March 18, 1914.
Discusses preliminary estimates, methods of comparison, and conditions of success in estimating.

MARINE Convention for the Safety of Life at Sea—*International Marine Engineering*, May, 1914.
Abstract of Regulations of the International Convention signed Jan. 20, 1914.

Largest Oil Tankers in the U. S.—*International Marine Engineering*, May, 1914.

TREASURY The Vigilant Policemen of Modern Business—*N. Y. Times Annalist*, May 25, 1914.
Credit information. The functions of the mercantile agencies.

SALES How to Go About Investigating Your Market, by H. Tipper—*Advertising and Selling* May, 1914.

Some Phases of Salesmanship, by H. H. Geary—*Business*, May, 1914.

Cutting Costs in Routing Salesmen—*Business*, May, 1914.

Getting Rid of Stickers, by W. B. Mayer—*System*, May, 1914.
How an attractive offer or method of selling may interest in slow-moving goods.

What it Costs to Operate a Team in Boston—*The Commercial Vehicle*, March 15, 1914.

Why I Bought of Them, by E. M. Woolley—*System*, May, 1914.

LUBRICATING Stream Lubrication Foreshadows Revolution in Milling Practice, by L. P. Alford—*American Machinist*, April, 16 1914.
The feature of the system is the supply and control of the lubricant, in ten times greater quantity than ordinarily.

The Lubrication of Cutting Tools—*American Machinist*, March 26, 1914.

EXPORT Why the Excess of Imports?—*N. Y. Times Annalist*, June 1, 1914.
Opinions of some large traders.

Brazil as a Buyer from the United States, by Charles M. Pepper—*The Iron Age*, April 2, 1914.
There are tariff concessions to this country, yet Brazil sends us three times our shipments.

Getting Business South of Panama, by John Chapman—*System*, May, 1914.

GENERAL Principles of Efficiency in Practice, V. The Engineer, the Management, and the Men, by C. E. Knoeppel—*The Engineering Magazine*, May, 1914.

Hysteria of Regulation—*Oil and Gas*, May, 1914.

Letters with Less Dictation, by Neil M. Clark—*System*, May, 1914.
How well written form paragraphs, properly used, reduce the cost of order correspondence.

The Law of Workmen's Compensation, by Frank V. Whiting—*Business*, May, 1914.
Address on the New York Law at annual meeting of State Bar Association.

Workmen's Accident Insurance—*N. Y. Times Annalist*, June 1, 1914.

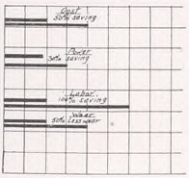
The Cost of Producing Credit, by Theodore H. Price—*The Outlook*, June 1, 1914.

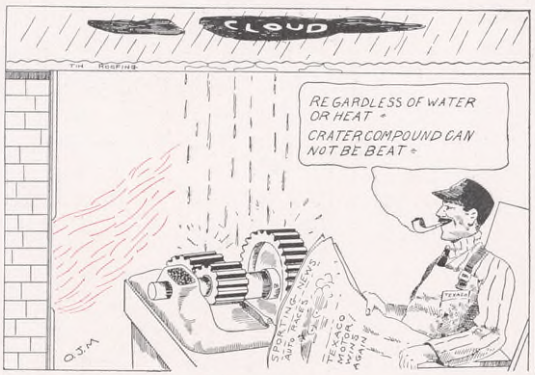
Recent Discoveries in Physical Science—*Engineering*, March 6, 1914.
Reviews the first of a series of lectures by Sir J. J. Thomson at the Royal Institute.

Can't be equaled
Radiated heat proof
Adheres where put
The metal affinity
Efficiency increaser
Reduces repairs

Cost reducer
Of all the best
Moisture proof
Prevents wear
Often tried, never denied
Unique among lubricants
Needs no attention
Did what I was told it would do

"Comparative Charts"





TEXACO CRATER COMPOUND
WILL
SAVE POWER WEAR & LABOR
AT
50% LESS COST

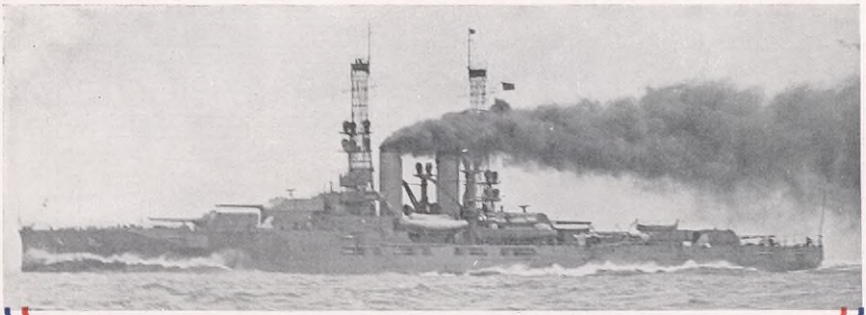
This month Mr. O. J. May, Lubricating Assistant in the Chicago Office, gets the place of honor.

We had the plate made right from his drawing—with no changes whatever.

We don't have to tell you that this is a good advertisement.

For the benefit of those who cannot draw as well as Mr. May, we will say that if you are holding up any ideas which you have not submitted because of your lack of artistic ability, don't let that stop you. Send them right in. We will have our artist draw up a sketch according to your ideas. Of course, if you can draw, so much the better. In any case, send us your idea.

ADVERTISING DIVISION—NEW YORK



WE ARE DOUBLY PROUD

Your heart must beat a little faster at the sight of one of our huge Dreadnaughts. You are proud of her brave crew and her fighting strength.

There is another reason for pride:—Her engines and turbines, the efficiency of her power plant.

And we, The Texas Company, are doubly proud to have participated in securing this efficiency. Most of our Dreadnaughts employ

TEXACO LUBRICANTS

You will find them on the "Delaware," the "Texas," the "Florida," and others.

You could not pick out a harder power plant to lubricate than a pitching, tossing, battleship, yet we have done it in such shape as to receive commendations from commanders and engineers.

The same efficiency we furnish to Uncle Sam is available to any of his "nephews" who installs the Texaco Lubricant intended for his purpose. We have an oil for every purpose.

THE TEXAS COMPANY