THE TEXACO STAR

OCTOBER 1941


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★ United States ★
DEFENSE SAVINGS
BONDS and STAMPS

THE TEXACO STAR

October, 1941

VOLUME XXVIII NUMBER 3

John Kabel, whose lovely scenic pictures have appeared many times in THE TEXACO STAR, has traveled all over the United States photographing beautiful landscapes. But last Fall, right in his own home state of Ohio, he made the picture which appears on the front cover of this issue. The inside front cover photograph is from R. I. Nesmith & Associates

A PUBLICATION OF THE TEXAS COMPANY

For distribution to employes and stockholders

MEMBER, THE HOUSE MAGAZINE INSTITUTE

DIRECT ALL COMMUNICATIONS TO THE EDITOR OF THE TEXACO STAR
135 EAST 42ND STREET, NEW YORK CITY

★ Industrial research in America has grown tremendously since World War I. In 1920, 300 laboratories and 9,300 persons were engaged in industrial research. In 1940, the work required 2,200 laboratories, 70,000 workers, and an annual expenditure of $300,000,000.

Brief AND TO THE POINT

★ The cracking process of manufacturing gasoline saved the world petroleum industry 1,865,000,000 barrels of crude oil in one year (1936). To supply this amount of gasoline without cracking would have doubled the quantity of crude needed.

★ Week-end driving is estimated to be 60 per cent for business, 40 per cent pleasure. During the week there's even less pleasure driving.

★ British rationing of gasoline to private motor car owners is on the basis of horsepower; allotments for commercial vehicles are made on the basis of weight. A private car of 24 British horsepower is allowed 10 imperial gallons of gasoline per month (top ration for any size car). Such a ration in this country would allow monthly travel of 125 to 175 miles.

★ Midget locomotives, as easily operated as automobiles but able to pull trains of 15 loaded freight cars at a speed of 15 miles an hour, are being delivered to Army posts throughout the country.

★ Paints and varnishes are to be restricted in their color range, according to recommendations made to the paint industry by the National Bureau of Standards. Purpose: To enable the paint industry to coöperate more closely with the Government in defense work.

MANY TEXACO OFFICIALS SERVING ON OIL COÖRDINATOR'S COMMITTEES

(Above) Harry T. Klein, Executive Vice President and General Counsel of The Texas Company, a member of the Coördinator's Transportation Committee for District No. 1. Colonel Klein entered the service of The Texas Company in 1921 as a member of the Legal Department. He is a Director of The Texas Corp. and The Texas Company

(Below) H. W. Dodge, Vice President and General Sales Manager of The Texas Company, was named Chairman of the Marketing Committee for District No. 1 by the Federal Oil Coördinator. Mr. Dodge began his career with Texaco nearly 30 years ago as an office boy in our Beaumont, Texas, general office

(Above) Torrey H. Webb, Vice President of The Texas Corporation, and Vice President and General Manager, The Texas Company (California), member of Transportation Committee, District 5, and Chairman of the Sub-Committee on Tank Trucks. Mr. Webb joined Texaco when California Petroleum Corp. was acquired in 1928

(Left) George W. Schwert, Sales Manager, Denver District, is a member of the Marketing Committee for District No. 4. He celebrated his thirtieth Texaco anniversary this year

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(Right) Claud B. Barrett, Sales Manager of the Southern Territory, is Secretary of the Marketing Committee, District 3. Mr. Barrett started with Texaco in 1927 as a salesman in the Atlanta District

(Above) H. S. McCray, Superintendent of our Sunburst Works, Sunburst, Montana, serves as a member of the Refining Committee in District 4. He came to The Texas Company in 1926

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(Below) F. P. Dodge, Works Manager of Port Arthur Works, our largest refinery, is a member of the Refining Committee for District No. 3. He joined Texaco in 1906 as a Yard Foreman

(Above) B. O'Connor, Division Manager, Refining Department, The Texas Company (California), is a member of the Refining Committee in District 5. He has been an employe since 1925

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(Below) H. A. Stewart, who came into The Texas Company in 1923 as a geologist, and is now Division Manager of the Producing Department's Rocky Mountain Division, is a member of the Production Committee, District 4

(Above) H. T. Dodge, Assistant General Manager, Export Sales Department, The Texas Company, member of the Petroleum Supply Committee for Latin America. He entered the service in 1920 as a gauger for The Texas Company of Mexico, Ltd., at Agua Dulce

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(Below) H. N. Pardee, Division Manager, Oklahoma-Kansas Division, Producing Department, is a member of the Production Committee for District 2. He first entered the employ of The Texas Company in 1923

THIS PETROLEUM SITUATION

To THE man who has come to consider automatic heat in his home and the daily use of his car not as luxuries but as practical necessities, news that he may have to cut down on his consumption of petroleum comes as something of a shock. "How come? What's the matter with the oil people?" he may ask.

Over the years we Americans have come to take petroleum for granted. That there would be enough oil seemed almost as safe an assumption as the plenitude of air and water. So fortunate is America in her untapped sources of this "black gold" and in the great organization for its production and distribution that the miracle of oil has become a commonplace. Filling stations are as convenient as grocery stores. A motorist might travel from Florida to Oregon and, barring some stretches of desert and mountain, could scarcely run out of "gas" beyond easy walking distance of a supply.

Americans enjoying their standards of good life were inclined to forget that someone had to run great risks before oil could be brought out of the earth in the abundant flow used today—risks of loss that must be counterbalanced by the expectation of high rewards for the successful. Before the present state of efficiency could be attained, private venturers sank many a "duster," or dry hole.

The petroleum industry has set a remarkable example of what private initiative and courage in the service of science can do for human betterment. Superior natural resources do not account for this achievement; other countries also possess immense reserves of petroleum, but they have not turned them to such account as we have.

No Shortage at the Sources

"Then why does the Government have to restrict or ration petroleum products?" the bewildered consumer may ask.

The reason relates entirely to transportation and distribution. The threatened shortage in the eastern states is due to the withdrawal of tankers from the regular traffic between the Gulf ports and the Atlantic seaboard and their diversion to British aid. There is no shortage of oil at the sources, principally in the Southwest.

In the United States there is a producing oil well for every 336 people. Last year alone 22,000 wells were completed. We produced in 1940 a barrel of oil a day for every 33 persons—an output four times that of 1918. Total supply of all the Axis powers is estimated to be not more than five per cent of ours. Our additional military requirements are offset by a shrinkage of exports caused by the war blockades.

Without drilling more wells the present yield from existing wells can be increased to meet any demand expected to arise, simply by opening the valves and releasing the pressure. Great lakes of oil and square miles of storage tanks hold a large reserve at all times.

Rationing to Help British

About 95 per cent of the petroleum used in the eastern states is moved by a fleet of tank steamers that has been multiplied eight times in the last 25 years. More than 150,000 tank cars are available to carry the refined products by rail and these are being drawn upon in part to take the place of tank steamers now serving the British. In addition, steps are being taken toward laying pipeline systems to the East Coast. Everything that can be done to expand transportation facilities the industry is doing.

To get this straight, let's put it this way: If a record-breaking flood or snowstorm blocked the roads of New York, Pennsylvania and New England, we wouldn't blame a temporary milk shortage on the farmers. Similarly, we should not blame the producers and processers of petroleum for an oil shortage when transportation facilities are curtailed for reasons of defense strategy.

These government controls in effect now or in prospect for the immediate future are directed at rationing consumption until this transportation problem posed by the war in Europe can be met.

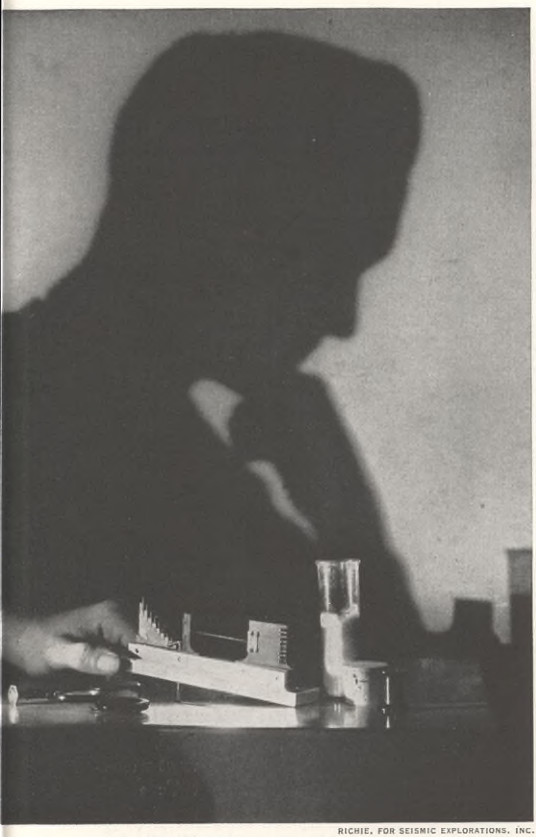
Under the spur of free incentives the petroleum industry has proved itself. We all know the contribution of the automotive industry to American progress, but we are not so quick to recognize that the oil industry marched shoulder to shoulder with motor car manufacturers to make this progress possible.

We marvel at the prodigious strides of air transportation but few realize that out of the laboratories of oil men came the special fuels necessary for terrific speeds, stratosphere altitudes.

We streak across the continent in high speed trains, increase production of vital machine tools, watch the achievements of the diesel engine, and produce synthetic rubber, unaware that all these things and many more are evidence of the quiet, unobtrusive forehandedness of the petroleum industry.

American petroleum—under the free enterprise system of America—has been a pace setter for the rest of the world.

Reprinted by courtesy of *Nation's Business*, Washington



RICHIE, FOR SEISMIC EXPLORATIONS, INC.

MINDS AT WORK

—The Story of Texaco Development Corporation

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In the day-to-day conduct of an established business the dreamer's plans may get pushed into the background

MEN with ideas have built the petroleum industry.

Originating ways to find oil under the earth, raise it to the surface, and refine it into usable form calls for creative intelligence.

Yet, in the day-to-day conduct of an established business, dreamers' plans often get pushed into the background. Research dealing with hazy future possibilities often has to take a seat on the sidelines.

On the other hand, a scientific staff that can plan ahead and meet problems before they arise is precisely the guarantee of a company's industrial leadership in days to come.

Assuring a steady place of importance to original research in the Texaco organization is one subsidiary which coördinates exploratory research and development work—Texaco Development Corporation.

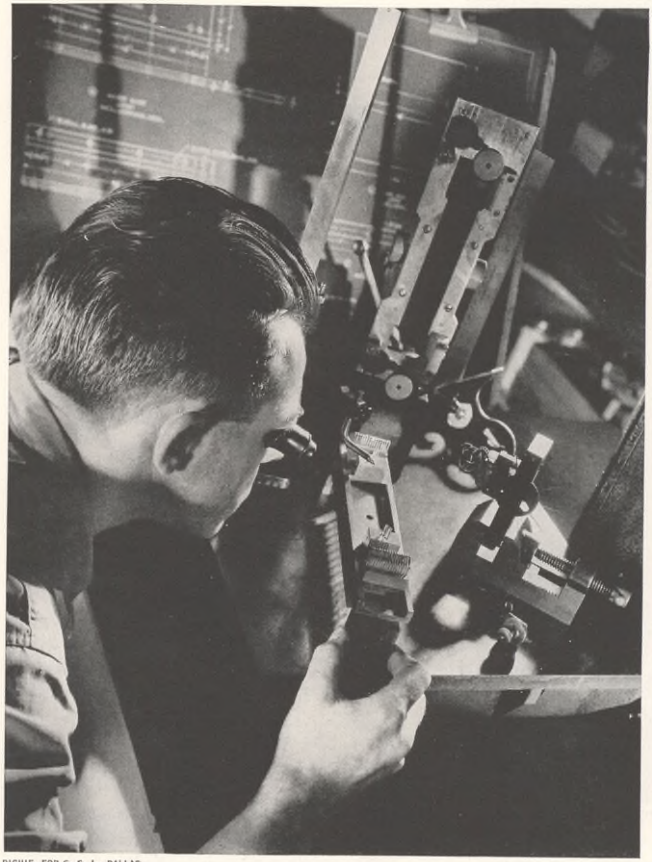
This organization is an outgrowth of the patent licensing operations of The Texas Company, and was first set up in 1932 as a wholly-owned subsidiary to handle the Company's patent work. It licenses all Texaco patents and collects royalties for their use. A part of what it collects goes back into its own hopper to pay for the cost of obtaining patents and to finance the type of research which leads to patentable developments.

Patented processes under which Texaco Development Corporation has the right to grant licenses have already altered many phases of the oil industry. For example, oil men are now drilling for oil under water from barges rather than from heavy platforms of piling and timber "mats." They are overcoming the menace of "heaving shale" by well-drilling with special, chemically treated muds. They are using solvents made from oat hulls to refine their lubricating oils, and they are utilizing heretofore waste refinery gases in the manufacture of super-octane fighting fuel for airplanes.

Not so long ago these processes, now an accepted part of petroleum technology, were merely ghosts of ideas. To bring such ideas to life is Texaco Development Corporation's job.

When an inspiration seems to be a likely one, the Development Corporation's staff may first put it through a preliminary investigation in a "test tube" laboratory; then, if it still looks promising, they set scientists and engineers to work to make something of it.

To do this development work, Texaco Develop-



RICHIE, FOR G. S. I., DALLAS

Instruments perfected by Texaco scientists are amazingly accurate in locating potential oil-bearing formations

★

ment Corporation uses scientists and laboratories of The Texas Company organization. It outlines plans for research, specifies how the work is to be done, and pays The Texas Company for whatever service it requires, in the same manner in which it sometimes hires outside agencies or sets up university research fellowships.

Since regular Texaco scientists are busy at their own jobs, exploratory research is usually delegated to special portions of the laboratory staff. Each operating department can provide services of a special nature. Texaco Development Corporation supplies finance, supervision, and guidance.

The Development Corporation has brought about striking original work in many fields, and has many other projects either in progress or scheduled for future development. Out in the field with the drilling crews, in the laboratory, and in the refinery, scientists employed on Texaco projects are constantly thinking of better ways of doing things. Some developments now licensed by Texaco Development Corporation were begun before the Corporation was set up. In such cases, the development company's contributions consist of improvements in already existing processes or new designs for equipment. Other processes have been worked out from the beginning by Texaco Development Corporation.

Perhaps the most widely used of all Texaco's patented processes is the seismographic method of exploring for oil. The hundreds of exploration parties which go out to look for oil with dynamite charges, portable drilling rigs, and recording apparatus travel under Texaco patents. Seventy-four United States firms and 10 abroad operate seismographic equipment under Texaco Development Corporation license.

"Looking for oil" connotes some of the more romantic aspects of research work. Not so long ago, the approved way to discover oil was to walk around the countryside looking for outcroppings of rock or oil seepages above ground. Modern wells, however, tap deposits too far beneath the earth's surface for any such casual discovery. To locate these deep oil-bearing formations seismologists use some of the same methods that are used to locate earthquakes.

Oil is customarily found under folds of rock which will reflect sound vibrations back to the surface of the ground. In order to locate these underground formations, seismologists set off carefully placed

charges of dynamite at the surface, and with delicate instruments spread over the ground record both the time it takes for the vibrations to be reflected back and the direction of their paths through the earth.

The tremors travel through some types of rock faster than through others; when weak waves come back it can be assumed that the tremors are passing through soft formations, but when strong waves return, chances are that they have struck some hard surface, such as the limestone top to an oil-bearing structure. The time it takes the waves to return indicates how far below the earth's surface the formation lies, and approximately where, and whether its shape resembles that of an oil-bearing formation.

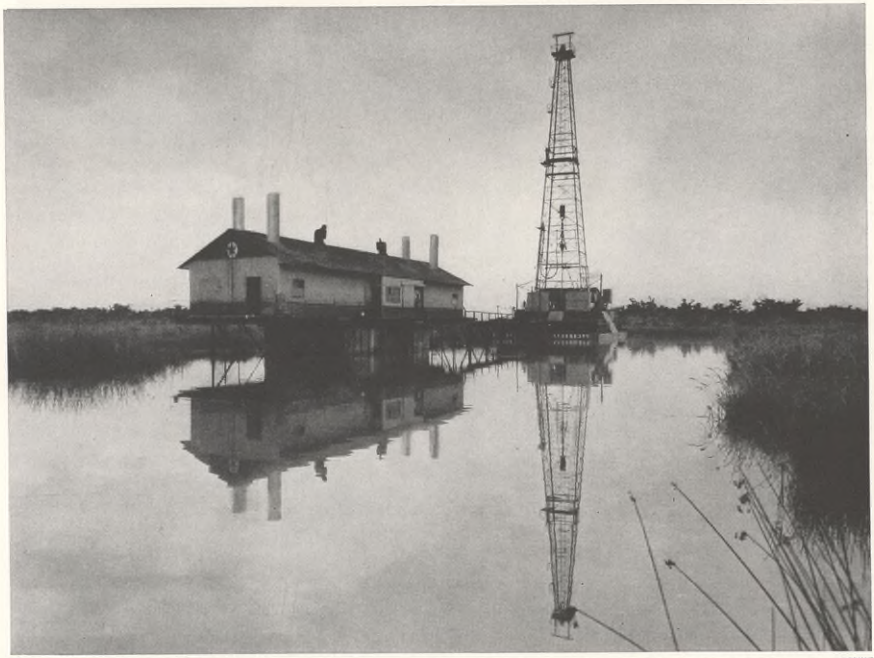
Instruments perfected by Texaco Development Corporation scientists are so sensitive that they record the tiniest waves, and the time of their arrival down to the thousandth of a second. They are amazingly accurate in locating reflecting formations, and are used extensively on many types of oil prospects. Seismograph crews are continually busy; some fields have been gone over completely by seismograph, and countless others lie ready for exploration.

Under the shallow waters and bayous along the American Gulf Coast lie valuable deposits of crude oil. To drill wells under water, however, has always been a tricky job. Setting up a derrick on water formerly required elaborate and heavy piling, especially constructed to support the derrick and drilling equipment. Excessive time was consumed in building the foundation of piling, rigging up and tearing down the derrick, barging and boating equipment.

The Texaco method of drilling wells from barges resting on the muddy bottoms of the bayous has obviated practically all these difficulties, and at the same time reduced the cost of drilling each well. With the first drilling barge, built in 1933, more than 40 wells have been sunk, some of them as deep as 12,000 feet.

At first thought, the idea of floating a huge drilling derrick on a barge appears quite difficult of realization. As worked out by Texaco engineers, it's quite simple. The derricks used are standard steel structures, 136 feet high, heavy enough to support up to 12,500 feet of casing and 14,000 feet of drill pipe. Each barge consists of two steel hulls, 145 feet long and 32 feet wide, joined together with heavy separation members and with an eight-foot slot between them through which the drilling is done.

When this big vessel is towed to its location, the



RICHIE

A Texaco-patented submergible drilling barge is towed to the site where a well is to be drilled, the lower compartment is flooded and the barge sinks on bottom. The well completed, the barge is re-floated and towed to another location

"Furfural," which is made from oat hulls, has the property of dissolving out the undesirable portions of a lubricating oil, leaving the desirable ones

EWING GALLOWAY

lower compartments of the hulls are flooded, and the barge sinks on bottom. The upper compartment remains mostly above the water line, even at high tide, and provides a huge platform to hold superstructure and derrick, and a "cellar" for the slush pumps, mud tanks, and auxiliary equipment.

While one well is being drilled, the location for another can be selected, and the barge, with the water pumped out, readily re-floated and moved to the new spot. Each rig, with its permanent crew, keeps busy all year drilling new wells without costly delays or the expense of dismantling the derrick.

Here's still another illustration of the value of a scientific staff which knows the needs of the oil industry and is given time and facilities to work out its hunches—a process for safe drilling through tricky rock formations.

Fortunes have been wasted by oil men in sinking wells through deceptive "heaving shale" formations. To all appearances this shale looks like ordinary shale, but as soon as it comes in contact with water it begins to swell, and finally disintegrates into a mush.

Through the drilling apparatus, as it bores its way down through the earth, mud must be circulated in order to reduce friction heat, flush out cuttings, and line the wall of the hole with a protective layer of caked mud. When water from the drilling mud strikes heaving shale, the shale starts to swell, and slides into the hole that is being drilled. The drill pipe may be bent, buckled and twisted, perhaps even seized by the heaving shale so firmly that it must be left in the hole as unrecoverable.

By using drilling mud made with sodium silicate (the same thing as "water glass," which grandmother used to preserve eggs), Texaco scientists found that holes can be drilled through heaving shale without trouble. Now, under Texaco patents on this method, oil men can drill through any kind of shale that may be encountered, without fear of disastrous losses.

When a well has been brought in, the oil is usually produced from a layer of sand. This very sand which holds the oil deposit is often a bugaboo in production. If fine and unconsolidated, it will cut screens and perforated liners, cause excessive wear on the pumping equipment by remaining suspended in the oil flow, or clog up the flow of oil itself.

Texaco Development Corporation patents cover a method of protecting the well by packing the sandy producing zone with gravel. Mixed with water or mud, the gravel is carried down into the earth through the annular space between the well casing and the

drill pipe, and is left deposited in a cavity made in the sand. Water or mud returns to the surface through the drill pipe. This process is called "reverse circulation" because in ordinary drilling, water and mud travel a contrary path—downward through the drill pipe and back to the surface between the pipe and the wall of the hole.

The gravel thus placed in the hole holds back the abrasive sands and prevents their movement so they will not clog the flow of oil or injure equipment. Many fields require this kind of gravel packing.

Quite another phase of Texaco Development Corporation's work is what it does in connection with the refining of petroleum.

The object of all petroleum refining is to get the fullest amount of high-grade oils out of any particular crude. But crudes vary in the proportion of high-grade hydrocarbons which they contain.

By refining under carefully controlled conditions with a solvent called "furfural," Texaco experts learned that almost any type of crude oil could be treated to give a maximum yield of high quality lubricating oils.

Furfural is an organic solvent made from oat hulls. When it is mixed with a quantity of raw lubricating oil stock, scientists discovered, it dissolves out the undesirable portions of the oil, leaving the desirable ones. The furfural, being relatively costly, is recovered from the residual oil by distillation and steam treatment, and used over and over again.

In producing the high-grade motor oils used in modern industry, particularly under a defense program, the ease and universal application of the furfural process make it of outstanding importance.

Waste petroleum gases which once were blown away into the air or used for furnace fuel are now, in Texaco plants, being made into super-octane gasoline to power the fighting planes of the Army and Navy. This process, licensed by Texaco Development Corporation, and known as "sulphuric acid alkylation," is described more fully in the April, 1941, issue of THE TEXACO STAR. It is based on the ability of two types of petroleum gases to combine with each other in the presence of a catalyst (sulphuric acid). Development and commercial application of the process make possible the production of an "alkylate" blending stock that has an octane rating of almost 100. When used to make aviation gasoline, the product gives aircraft quicker take-offs, faster climb, extra speed, ability to carry added payloads, and longer cruising ranges.

Making patented developments such as these avail-

Furfural Refining Unit at our Port Arthur, Texas, Refinery

able for general use in the petroleum industry is a job which takes full account of the Development Corporation's legal and business talents. On each invention or improvement it is necessary to secure a patent, perhaps several patents, in order to protect the Corporation's ownership. Getting a patent necessitates close coöperation between patent lawyer and laboratory worker so that patents can be applied for without delay when work is completed.

When a new development is ready to be announced, Texaco operating officials are advised so that they can make use of it, and are assisted in installing it. This advisory service by Texaco Development Corporation extends further; its officials keep in constant touch with all new developments in the oil industry, to make sure that The Texas Company is kept fully aware of all new commercial processes and equipment that they might wish to use. Then they secure licenses to use such patents as may be desired.

To other companies which desire to use Texaco inventions in the conduct of their business, licenses are granted, upon which royalty payments are collected. The Corporation's established policy is to license its patented improvements at reasonable royalties rather than undertaking to maintain a monopoly in their use.

Other concerns, of course, may bring out technical developments of their own, protected by patents. Under such conditions, where The Texas Company may desire to use the patented process of another company and that company may desire to use one of Texaco's processes, "cross license" arrangements are made through Texaco Development Corporation. By such cross licenses The Texas Company has obtained patent immunities of very wide scope for its own operations.

Oil history has always been spangled with discovery, but finding a new field is only one of the discoveries an oil man can make. New compounds, new refining processes, new ways of producing lie beyond the horizon for many years to come.

Texaco Development Corporation's men think of themselves as roving observers, always keeping their eyes peeled for something new. What they will turn up next they can never be sure. Perhaps a new way to make usable oil out of waste products, perhaps some revolutionary method of refining.

Minds at work built the oil industry to the unique position in public service it occupies today.

To the minds at work in Texaco Development Corporation, pioneer days in the oil industry are by no means over.

RICHIE

New compounds, new refining processes, new and better ways of producing oil, all lie beyond the horizon

The Opera Question Forum was a popular feature of the Texaco-sponsored broadcasts last season. Left to right, are: Milton Cross, announcer; Giovanni Martinelli, Metropolitan tenor; Herman de Vries, music critic of the *Chicago Herald-American;* Mrs. de Vries, and Mme. Frances Alda, former Metropolitan star

BROADCASTS OF OPERA AGAIN TO BE SPONSORED BY TEXACO

★

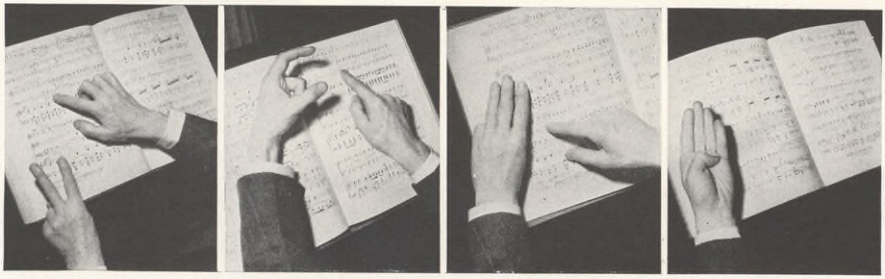
"I BELIEVE you will be interested in my experience in Port-au-Prince, Haiti, last Saturday afternoon. Though Saturday is primarily 'opera day' to me in the States, I have no radio here. Thinking of the performance at the 'Met,' I went for a walk through a residential section of the city. To my delight I heard snatches of the Metropolitan performance coming through the open windows of almost every home. I think you are doing a great work in unifying the Americas, as well as in giving great music to the world."

During the last Metropolitan Opera season, 2,500 persons a week wrote letters similar to this one, praising the Texaco-sponsored broadcasts from the famous opera company.

Good news to lovers of fine music is that The Texas Company has arranged to sponsor the opera broadcasts again during the 1941-42 season. The first performance is scheduled for November 29, and the series extends for 16 weeks. The programs will be carried over an NBC network of 150 stations in the United States, and to Central and South America.

Right now, the Metropolitan Opera auditorium in New York is silent, its plush seats and its boxes draped in white dust coverings. Box office posters announcing the programs have not yet been pasted up for the Fall season. According to "Met" tradition, performances are never announced more than two weeks in advance, because they cannot be set until artists are definitely available to play the important rôles. But already opera lovers who pass the old, dark theater are scanning the boards for Autumn announcements. Before long, new posters will be up, and the first notes of superlative music will go out over the Saturday afternoon air waves.

And thanks to Texaco, arm-chair opera lovers from all over the Western Hemisphere—a housewife in San Francisco, a rancher in Argentina, a tourist in Port-au-Prince, Haiti, will again be transported by the kinship of music to the famous old opera house.



With these hand signals the NBC production man tips off the control engineer on what's coming up next during the broadcast. Left to right the signals indicate: duet, very soft; chorus, *forte;* trio, soft; male voice

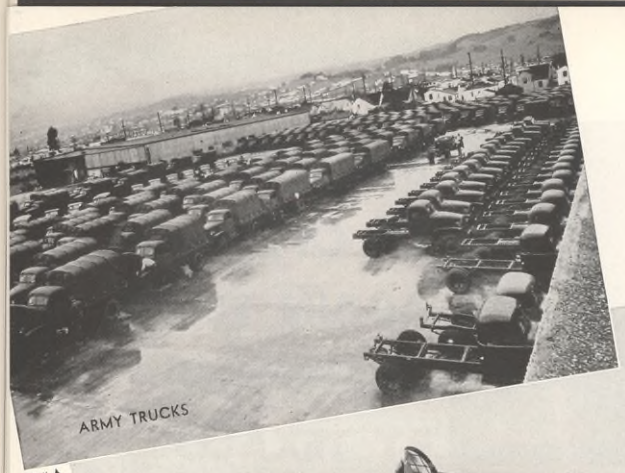
TEXACO RECEIVES
FOR SIXTH CONS

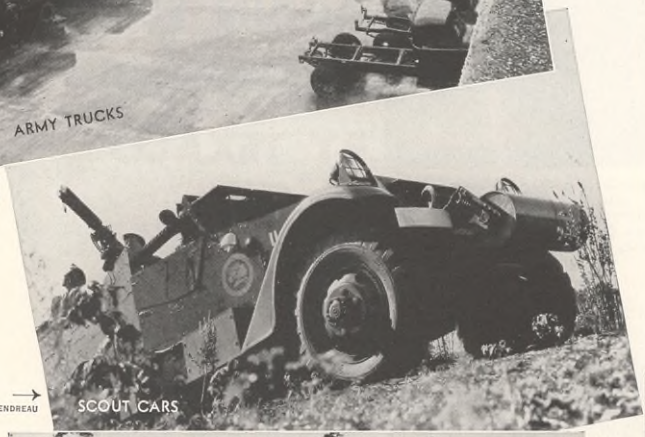
IN THESE stirring times, production of ships and tanks and guns and planes is of vital importance to our national defense. Equally vital is that such equipment be supplied with lubricants of the proper quality, and in such quantities that operations can be carried on without interruption.

The Texas Company is proud that for this important task Texaco products have again been specified—for the sixth consecutive year—under the United States Navy Department lubricating oil contract.

To win a berth on Uncle Sam's fighting ships and planes, lubricants must pass rigid tests by the Naval Engineering Experiment Station at Annapolis, plus a thorough work-

PHOTOS NOT OTHERWISE CREDITED ARE FRO


ARMY TRUCKS

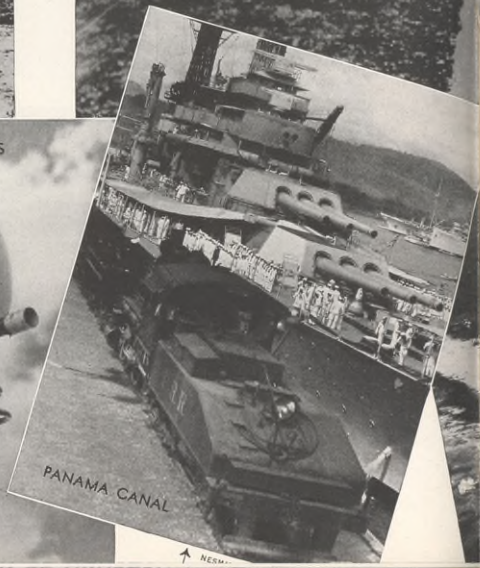

SCOUT CARS


TANKS


NAVAL AIRCRAFT


SEARCHLIGHTS


WEATHER INSTRUMENTS


PANAMA CANAL

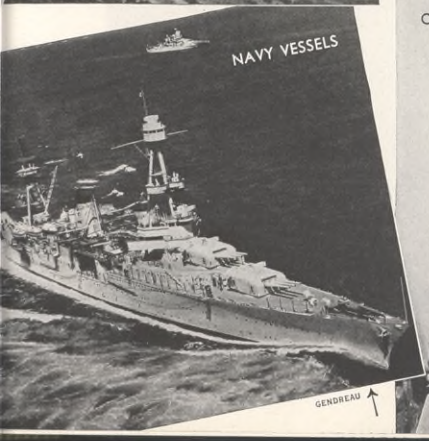
S NAVY AWARD
SECUTIVE YEAR

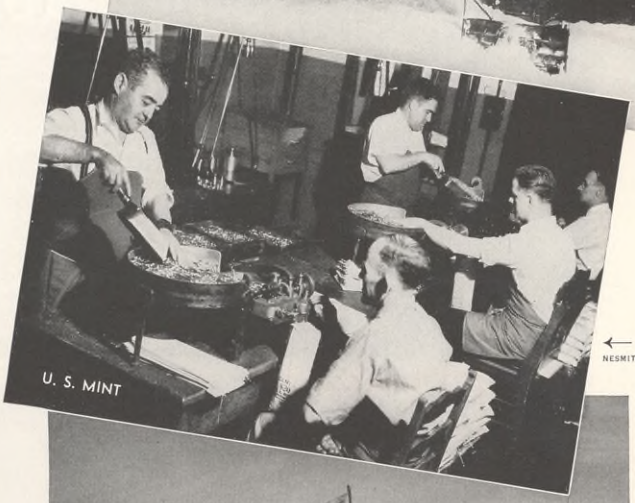
out under actual operating conditions. The oils are graded not according to price, but according to their *cost in service.*

Under the Navy contract, as in previous years, Texaco will lubricate ships, planes, motor vehicles and stationary equipment not only for the Navy but for practically every other Government department. Machines so serviced range from giant steam turbines to motorcycles, from dinghies to dredges, torpedo boats to tractors. Users range from the War Department to the Office of Indian Affairs. Pictured on these pages are some of the types of equipment which are now being lubricated by Texaco products under the Navy contract.

FROM CHARLES PHELPS CUSHING

ROBERT YARNALL RICHIE





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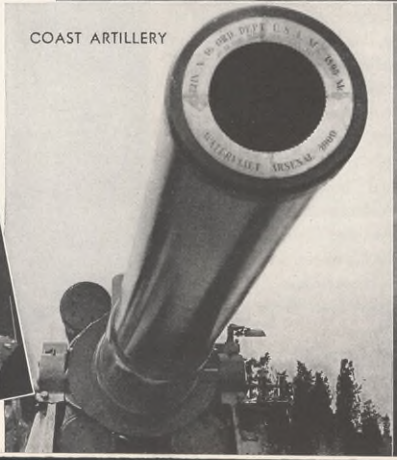
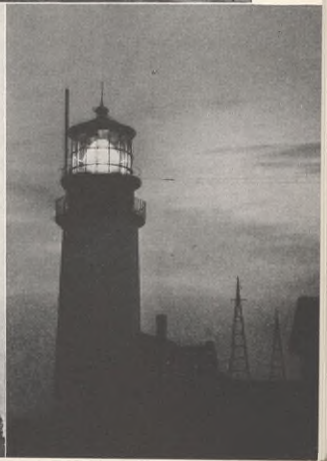
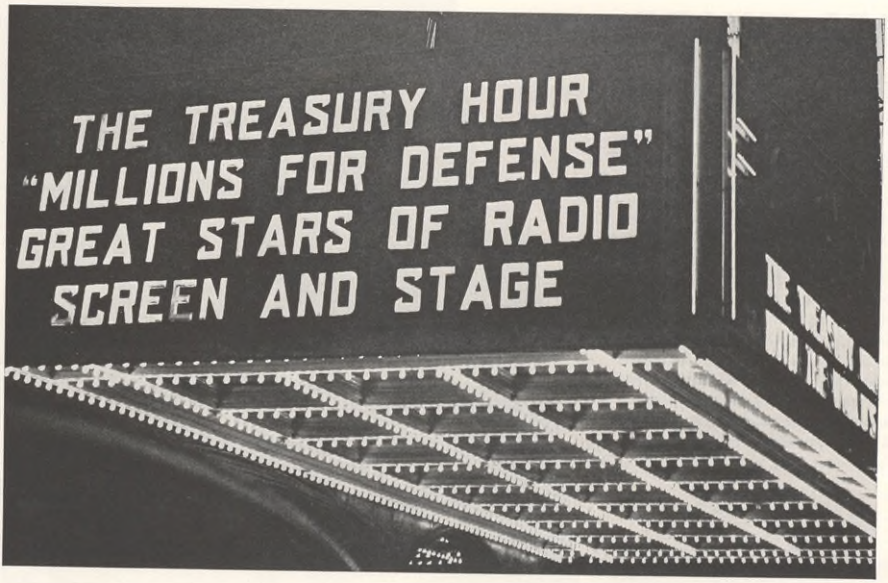






As a contribution to national defense, The Texas Company this Summer donated its Wednesday evening radio time to the United States Treasury Department.

Turning showman to promote the sale of Defense Bonds and Stamps, the Treasury Department used the free Texaco time to present a 13-week series of radio productions, "Millions for Defense," extending from July 2 until Fred Allen's return on October 1 with the Texaco Star Theater. Plans for a Texaco Summer program were put aside to give air-space to the fund-raising campaign.

"Millions for Defense" was heard by millions of listeners, over a CBS network of 88 stations. It proved a star salesman in helping to market the billion dollars' worth of Defense Bonds and Stamps sold in the past few months.

Top-flight craftsmen in the entertainment world gave their time freely for the Treasury Hour productions. Music for the entire series was conducted by the Texaco Star Theater's maestro, Al Goodman; the first program was introduced by Texaco's Fred Allen. Direction was in the hands of CBS casting chief Earle McGill.

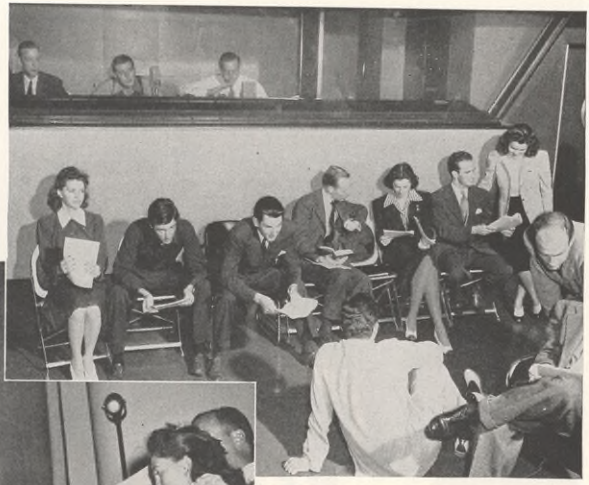
Some of the distinguished "bond salesmen" from the realms of opera, the stage, motion pictures and radio who have appeared on the Treasury Hour include Barry Wood, Ray Block's choir, Judy Garland, Charles Laughton, Grace Moore, Mickey Rooney, Walter Huston, Bing Crosby, Bob Hope, Dorothy

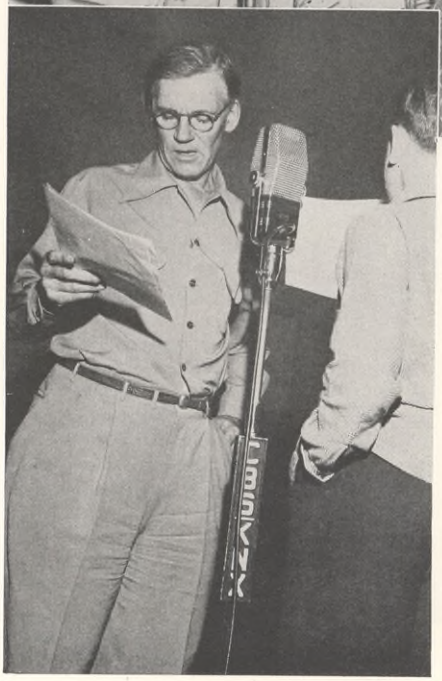
George Burns and Gracie Allen were among the many stars who gave time and talent to the sale of Defense Bonds

(Right) Part of the supporting cast of the "Millions for Defense" program

★

(Below) "The song of America is not a single melody; it is blended of the folk music of many peoples. It rises in the united voices of those who came from all other lands to the land of the free." (Bottom photo) Walter Huston, actor, rehearsing for the program





Lamour, Lowell Thomas, Dorothy Maynor, Lily Pons, Andre Kostelanetz, "Information Please" with the Messrs. Fadiman, Adams, Kieran and Levant.

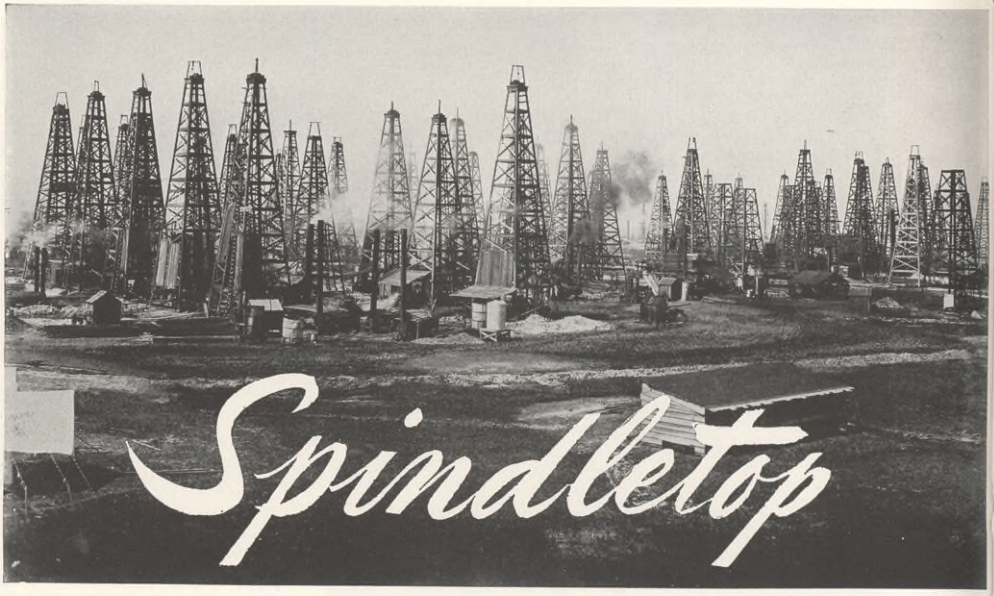
Also Walter O'Keefe, Ezra Stone, George Burns and Gracie Allen, Abbott and Costello, Irving Berlin, Ilka Chase, Helen Jepson, Raymond Massey, Albert Spalding, Alexander Woollcott, Don Ameche, Jack Benny, Claudette Colbert, Bette Davis, Jane Froman, Mary Livingston, Tyrone Power, Fanny Brice, Deanna Durbin, Lansing Hatfield, Miriam Hopkins.

Also Bob (Believe-it-or-not) Ripley, Rose Marie Brancato, Henry Fonda, Bidu Sayao, Martha Scott, Al Jolson, the Quiz Kids, Milton Berle, Priscilla Lane, James Melton, Rubinoff, Eddie Cantor, Larry Adler, Betty Grable, George Raft, Edward G. Robinson, Lanny Ross, Fred Astaire, Ann Brown, Marian Anderson, Edward Mathews, the Juanita Hall Singers, Audrey Marsh, Edgar Bergen and Charlie McCarthy, Kate Smith, Paul Muni, Morton Downey.

On the final broadcast of the Treasury Hour on Texaco-donated time, the following telegram to W. S. S. Rodgers, President of The Texas Company, was read:

"Our sincere thanks to The Texas Company for its contribution of radio time which has made this Treasury Hour possible. Your company has made a very well-worthwhile contribution to the National Defense Program of the United States Government.

HENRY MORGENTHAU, JR."



Patillo Higgins Had a "Fool Notion," and Texaco Was Born

By NORTH BIGBEE

Texas Mid-Continent Oil & Gas Association

THERE was the usual crowd of loafers and business men on the streets of the little piney-woods city of Beaumont, Texas, that morning in 1901. The horses hitched to the rail along the principal street were dozing lazily when they were suddenly awakened by the sound of hooves galloping down the street, and loud shouts.

One of a group in front of a saloon recognized the horseman.

"What's the matter, Charlie?" he called.

The rider jerked his mount to a stop. "Plenty!" he exclaimed. "There's a blamed wild well just blew in on Spindletop!"

"What's wrong with that?" his friend asked. There had been spasmodic drilling out south of town on the little mound known as Spindletop ever since Patillo Higgins had got a "fool notion" that there was oil under it.

The visitor became even more irate. "The dirty stuff's ruinin' my land, that's what!" he declared. "Wish I could find somebody to buy my farm. I'd sell it to him for a dime!"

And spurring his mount, he started down the street to tell others the story of his "misfortune."

The disgusted announcement by this rural Revere, Charles Ingalls, was the first word the world had of the most sensational oil well in history—the Lucas gusher. That well, which blew in just 40 years ago this year, marked the birth of the modern petroleum industry—and of The Texas Company.

The story was told by the local paper that afternoon as follows:

"About 10 o'clock this morning while the men employed by Mr. A. F. Lucas . . . were boring for oil, an explosion occurred that forced the tubing into the air like it was a mere plaything, and then immediately followed a stream of black petroleum. . . . The news was the cause of great excitement, every available livery team being pressed into service to carry people to the well. . . . Men began to feel like millionaires. . . . This discovery will no doubt induce capitalists to prospect on the lands which are not leased and the result will be very beneficial to Beaumont."

Spindletop's fortieth anniversary is being celebrated this year under the auspices of the Texas

Mid-Continent Oil and Gas Association. Highlighting the observance, which took place during the association's annual meeting October 9, 10, and 11 at Beaumont, was the dedication of a monument to the Lucas gusher and the Spindletop pioneers.

The monument, of Texas granite, was financed by the gifts of oil men through the efforts of the Lucas Gusher Monument Association headed by J. Cooke Wilson of Beaumont. Second in size among Texas memorials only to the towering San Jacinto monument, the shaft is topped by Texas stars and decorated with carvings representing exploration, drilling, discovery, and production. The carvings were designed by Pierre Bourdelle, famous French sculptor.

Participating in the dedication and in other anniversary observances were some of the pioneers of The Texas Company, which itself was founded, as the result of Spindletop, 40 years ago.

It was only a few months after the Lucas discovery that the Texas Fuel Company was organized by the late J. S. Cullinan, his brother, Dr. M. P. Cullinan, and Rod Oliver, who had previously been operating at Corsicana. Among the early operators at Spindletop were ex-Governor James Stephen Hogg and James W. Swayne, who had formed the Hogg-Swayne Syndicate and acquired some excellent acreage in the new field. The Texas Fuel Company bought out the highly prolific wells of the Hogg-Swayne group, added E. J. Marshall and W. T. Campbell to its board of directors, and laid the foundations for today's organization. Also interested in the original company was John W. (Bet-a-Million) Gates, who then lived in Port Arthur.

Subsequently the company acquired the Producers Oil Company, formed in 1901 at Spindletop by Walter B. Sharp and associates, and the Moonshine Oil Company, formed in May, 1902, by Mr. Sharp, Jim Sharp, and Ed Prather.

To take care of the oil, to be moved by pipe line from Spindletop, the company bought several acres of land on the outskirts of Port Arthur, and erected a few storage tanks, a boiler house, and pump house. In 1903, some refining equipment was added—two small stills of 1,000 barrels capacity each. This was the beginning of Texaco's Port Arthur Refinery, which now covers 4,798 acres of land, and has a capacity of about 135,000 barrels of crude oil a day—one of the greatest oil refineries in the world. In addition, the Company operates a large plant at nearby Port Neches, covering 1,083 acres, and having a crude capacity of 40,000 barrels a day.

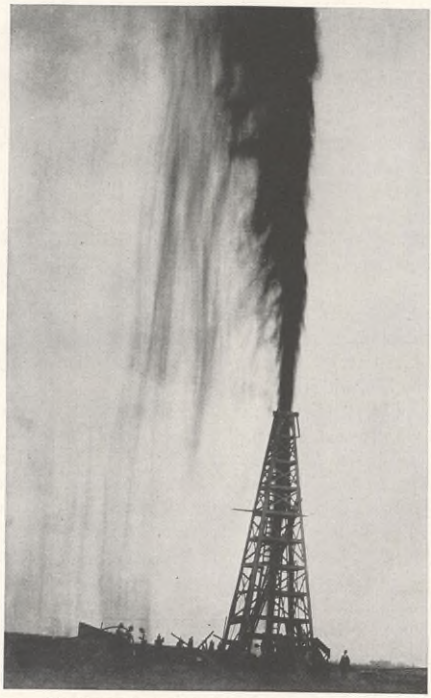
But to get back to that historic day in 1901: The story is told of a citizen of Port Arthur who went to Beaumont to see the Lucas gusher soon after it came in. He fell into conversation with an official of an eastern oil company who had come all the way to Texas to see the big well.

"I wonder," said the Port Arthur resident, "what will result from all this."

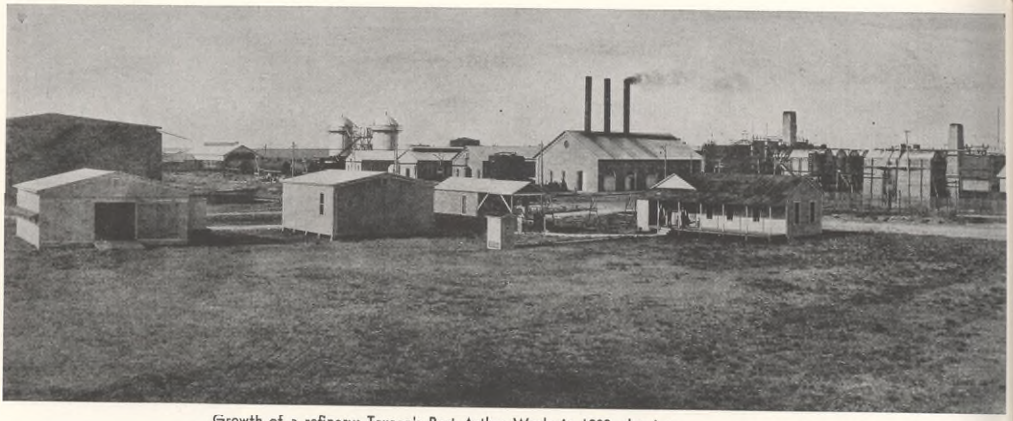
"I can give you one answer," the oil man replied. "Port Arthur already is preparing to take care of the oil. Years from now, oil pipe lines will spread out of this area like the spokes out of a wheel."

Today the Gulf Coast region of Texas is the greatest refining center in the world, with scores of trunk lines bringing oil from Gulf Coast fields and much of the Mid-Continent to feed its stills. And playing a large part in this development has been The Texas Company and its affiliates, their officers and employes. Among the Texaco pioneers who received their training at Spindletop were the late Amos L. Beaty, T. J. Donoghue, Judge R. E. Brooks, Judge Robert A. John, and many others.

Being the first large



Charlie Ingalls would have sold his farm for a dime after the "dirty Lucas gusher messed it all up"



Growth of a refinery: Texaco's Port Arthur Works in 1903, showing No. 1 Boiler House. Now look at the picture on the opposite page

gusher field in America, Spindletop made available sufficient petroleum not only for fuel and power, but for lubrication. As ex-Mayor S. M. Jones of Toledo said a few days after the Lucas blew in, "It is the greatest oil well ever discovered in the United States. Its advent means that liquid fuel is to be the fuel of the twentieth century. Smoke, cinders, ashes and soot will disappear along with war and other evidences of barbarism. During the next few years you will see locomotives . . . using oil for fuel, and ocean steamers will be using it, too."

Mayor Jones was right in nearly all his predictions except that about war. Even petroleum has been unable to change human nature, in spite of the fact that it has made the world virtually one community through fast ships, the motor car and the airplane.

Spindletop has another distinction, if a doubtful one. It was probably the most fabulous oil boom of them all. The mad rush of investors, speculators, adventurers, promoters, and the like, which followed the announcement that the biggest oil well in the world had been drilled near Beaumont, ballooned that city's population from 9,000 to 50,000 in less than a year. Men slept on pool tables, in alleys, or anywhere else they could, because there weren't enough beds to go around . . . even when used by two or three men a day. Long queues formed outside all eating places, with some of the visitors waiting for hours to get in for a plate of ham and eggs. The police chief warned law-abiding people not to put aside any weapons they might have, but to carry them.

"Tote your guns," he advised, "and tote 'em in your hands, so everybody can see you're loaded."

Acreage prices reached fantastic highs. One plot 20 feet square sold for $75,000. Another piece, 45 feet square, was owned jointly by four companies, each capitalized at one million dollars. Some operators bought or leased only enough ground for a derrick, and rented space for their boilers. In portions of the field at the height of the boom, it was possible to walk for some distance without touching the ground, merely stepping from derrick to derrick on the planks laid to connect them. Butte's famed "richest hill" was challenged by Spindletop, where 500 derricks rose on 144 acres.

With such a forest of derricks, fires were numerous and highly destructive. One of these started when a worker thrust a lantern into a tank to see how much oil it held. The explosion set fire to a new gusher, just drilled in and still running wild. It looked as though the entire field were doomed. In the emergency, J. S. Cullinan was placed in command of a volunteer army of fire-fighters by a district judge.

"I want the authority to kill a man if that is necessary in the discharge of my duty," Cullinan said, and the power was conferred. When daylight came, 26 derricks on a single acre had been destroyed, but the situation was under control and the field was saved. Three weeks later, another fire took one life and burned up 62 derricks on two blocks of the Hogg-Swayne holdings.

The wild and wasteful boom days of the oil business are long since gone. Today the industry is operated on a scientific basis to get the greatest ultimate percentage of oil underlying any field. Wide spacing of derricks, multiple safety precautions, and prorated production to conserve gas pressure and

water drive are now standard procedure. Instead of a productive life of a few years, as old Spindletop had, today's fields enjoy a flowing life of sometimes 10 years or more, with profitable pumping for an additional 15 or 20, or even longer. Thus hundreds of millions of barrels of oil which would have been irrevocably lost under the old, haphazard methods have been made available for present and future generations of Americans.

There will be no more fields like Spindletop, not only in what it was, but also in what it did. For it brought in a new era in civilization. As the Lucas Monument dedicated this Fall says, in letters cut into the Texas granite: "Petroleum has revolutionized industry and transportation; it has created untold wealth, built cities, furnished employment for hundreds of thousands, and contributed billions of dollars in taxes to support institutions of government. In a brief span of years, it has altered man's way of life throughout the world."

And Spindletop started it all!

EDITOR'S NOTE:

Although Texaco may correctly be said to have been born in the Spindletop boom, it was not until April of the following year that The Texas Company was organized to take over the properties and obligations of the Texas Fuel Company. At that time, three million dollars par value of capital stock was authorized, of which $1,650,000 was issued during the first year of the Company's existence. The 119 stockholders (there are now more than 80,000) held their first annual meeting at Beaumont on November 22, 1902. The year 1942, therefore, marks Texaco's official fortieth anniversary, and we are planning to carry several articles covering important incidents in the Company's early history in next year's issues of THE TEXACO STAR.

The arrow shows No. 1 Boiler House, almost lost in the midst of the tremendous plant which has been built up around it in four decades

WHY I BECAME AN AMERICAN

By LILY PONS

Metropolitan Opera Broadcast, March 22, 1941

IT IS true that I have only been an American citizen a short time, but I have been seeing what America means since the day, ten years ago, when I first saw the skyline of New York. I think I felt American on that very day. I could not speak English very well then, nor very well now, but I believe I had a quick comprehension of what America was, and what it had done for its people. And as the years went by, I learned more; I asked questions, I saw with my own eyes. So then I knew that this country, to Lily Pons, was *home*. And it is very good to have this opportunity to tell so many people what I believe about America.

In 1931, when I came to this country, a stranger, quite a little bit frightened, America held out her hands to me and said, "Welcome, Miss Lily Pons. You wish to sing? *Bon!* Come in and take off your hat, and let's see what you can do!"

That is the exact truth, and I soon discovered that this was not just an exception made for Miss Lily Pons. I saw it happen over and over again—this cordial welcome to strangers and the sincere wish that they should go to work and do well. Is not that a lovely introduction to a new land?

Perhaps no one who has been an American all his life can truly know and appreciate this sincere open-mindedness of America to new things, and to new people. You must have come from abroad to know the great difference between countries that look chiefly to their tragic pasts, and our America which, because of its still young and glorious past, can afford to look happily and bravely to its future. The creative mind, which looks always ahead, must turn to America for its nourishment, and for its tools with which to work.

I believe all peoples today wish, oh! so ardently, for a homeland where there is still laughter and where one still has good reason to hope. Not only singers, writers and artists, but all people with the artistic need to build—wood carvers, leather workers, lace makers—all the skills which America has admired in other lands. Yes, America has earned the right to take the responsibility for the future of Music, of Art, and, maybe, even of civilization itself.

And even if that is a terrible burden of responsibility for any country to accept, I am glad that America must take it. But I believe that America today really does not think of it at all as a burden. There is something here born out of all these different races living together in the new world, which has the spirit and the courage to march ahead, with freedom and justice for all. America will not let what has happened abroad happen here. I know it!

Europe is different. Over there, too, must come one day a complete rebirth of spirit. For everywhere you look are the ugly scars of past wars—monuments, ruins—daily reminders of old hates and old jealousies. There is hardly a foot of ground which has not been watered with blood. French farmers, for instance, turn up old weapons and shells wherever they plow.

★ WHEN the generosity of The Texas Corporation made it possible for us of the National Council of Women to utilize an intermission period during each of the season's Saturday afternoon broadcasts of the Metropolitan Opera Company, we were most happy for the opportunity we had been given. We felt that a series of curtain talks designed to establish the facts about "Our American Way of Living" could be of extremely important service to the unity and morale of America in these gravely troubled times. We also hoped that the series would strengthen the resolve of all of us to resist those voices whose only purpose is to incite prejudice and hatred and, thereby, threaten our national unity. The great men and women who have joined in these talks also came with only one idea, and that was to bring to all of us a true and factual report on the specific aspect of "Our American Way of Living" which had been assigned to them.

—MRS. HAROLD VINCENT MILLIGAN
President, National Council of Women

But here in America it is so different. Over here, we have not this destroying heritage of hate and war. We know that men and women of all races and all kinds can live together and work together in peace and in harmony. America not only knows this but she has proved it. This, I think, is the very most important pattern of life which America has to offer the rest of the world, and probably the one thing which America in her inner heart values the most.

But not all Americans appreciate these so important truths about their own glorious country. You must, every one of you, know and appreciate more all these wonderful things you have. Don't be careless with them. Don't allow yourselves to be separated by things which are only of temporary importance. Never lose sight of the things you are fighting to preserve and continue. Be devoted to them with your whole hearts. In patriotic unity is your strength, regardless of what kind of decisions you make for tomorrow.

In every land and island and continent of the earth, the people of tired old countries today are praying for *our* American future, because it is *their* only hope of *any* future! And to them, I would say: "*Mes amis*, have no fear. I know America! It will not stop working and building for tomorrow."

Yes, I have found that America has the warmest hearts in the world! Never have I seen a country which has so many societies and clubs to help everybody and everything—the poor, the sick, the old, and the crippled—and even the dogs, birds, and horses. You have the most beautiful roads and parks for your outings. You have music and dancing everywhere. You have thousands of fine schools filled with hundreds of thousands of well-fed, smiling American children—American children who represent all the races of the world. Here they learn together, and play together and tomorrow, God willing, they will work together.

And these, my dear friends, are the reasons why I love America, and why Lily Pons became an American.

Tanham and Webb Become Vice Presidents

JAMES TANHAM, formerly Assistant to the President of The Texas Company, and Torrey H. Webb, Vice President and General Manager of The Texas Company (California), were elected Vice Presidents of The Texas Corporation at a recent meeting of the Board of Directors. Mr. Tanham was also elected a Vice President of The Texas Company. Mr. Webb will continue in his present position with the California company.

Mr. Tanham was born in Brooklyn, New York, August 10, 1895, and received his education in New York City. He entered business life as an office boy for a wholesale optical company, and was first employed by The Texas Company on May 26, 1919, as a stenographer in the Executive Offices, New York. June 1, 1924, he was made a Senior Clerk, and on June 1, 1926, became Executive Assistant in the General Domestic Sales Department. He was made Assistant to the Vice President in Charge of Domestic Sales on November 27, 1928, and on May 9, 1933, was appointed Assistant to the President.

James Tanham

Mr. Webb, whose photograph appears on page 2 of this issue of THE TEXACO STAR, is a native son of California, having been born December 7, 1892, in the town of Gazelle. After preparatory studies at the Cambridge Latin School and Phillips Exeter Academy, he was graduated from the School of Mines, Columbia University, in 1917. He spent his early years prospecting for oil in Texas, later became interested in land development in California, and in 1922 went to the Ventura Consolidated Oil Fields in Los Angeles as a statistician.

In May, 1926, Mr. Webb became an engineer for the California Petroleum Corporation, and in July, 1928, was made Assistant to the Vice President of its successor company, The Texas Company (California). In February, 1929, he became Chief of the Land and Lease Division of the California company, and in July, 1931, was advanced to the post of Assistant to the Vice President and General Manager. Six years later he became Assistant to the President and General Manager, and in August, 1938, was made Vice President and General Manager.

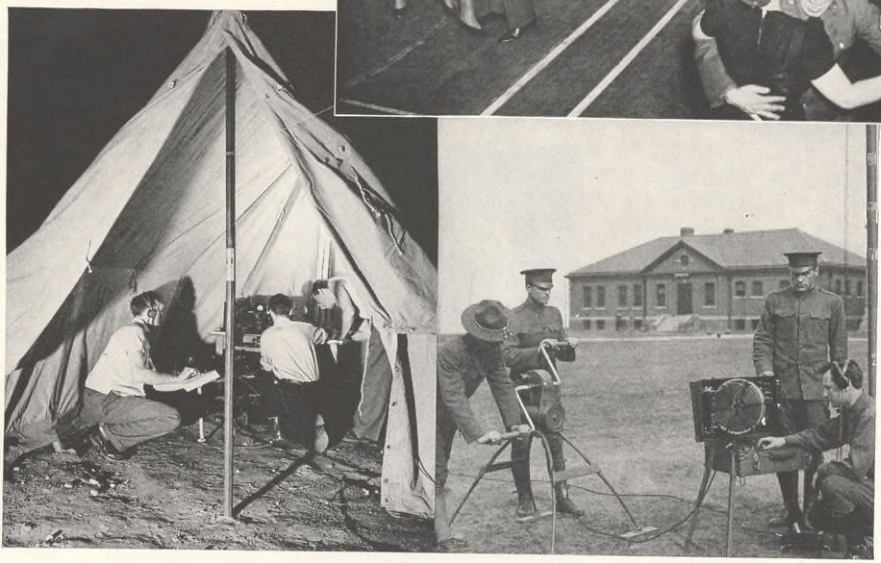
To these newly elected officers, their fellow employes extend hearty congratulations and best wishes.

"YOU'RE IN THE ARMY"—THEN AND NOW

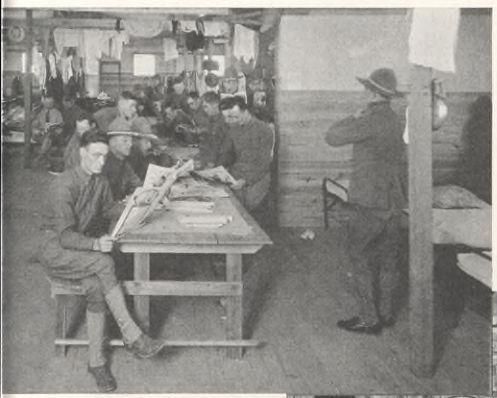
Gay event in camp—visitors' day. Dancing with the boys in uniform (below), 1941 girls may be too young or too busy to reminisce, but 24 years ago (left) other girls were given a royal welcome at the army posts

A YEAR AGO Congress approved the country's first peacetime military conscription. Selectees from Maine to California began to leave for camp, drape their frames in unaccustomed uniforms, practice drill. Compare the green soldiers of 1941 in these pictures with the boys of 1917, when another U. S. army was in the making

PHOTOS FROM BROWN BROS. AND U. S. ARMY INFORMATION SERVICE



Wireless has changed since 1917 (above)—and the equipment is much more efficient than it was then



What to do after a long march: At ease in the barracks, 1941 boys (below) play Chinese checkers, read, or just relax. Tired soldiers of 1917 (left) didn't go so much for Chinese checkers, nor were *Time*, *Pic*, or *Esquire* published in those dim and benighted days

(Below) "Streamlining" in planes and flying togs was simple, back in 1917. (Lower right) Modern cadet gets a last minute check-up from his lieutenant on the proper technique in "pylon eights"

1941. Letter to the girl friend, and a portable radio, keep this soldier in touch with the world outside camp

1917. Homesick: A record turns on the old-fashioned gramophone. Calendar girl looks on sympathetically

Ready! Aim! Fire! Teachers and pupils line the rifle range at a modern camp

Rookies pick up rudiments of sighting their rifles on a 1917 range

Salute! Trim and snappy, these 1941 doughboys greet their superiors. (Above, right) Salutes of 1917

(Opposite page) Night view of crude topping unit at our Port Arthur Refinery, Port Arthur, Texas

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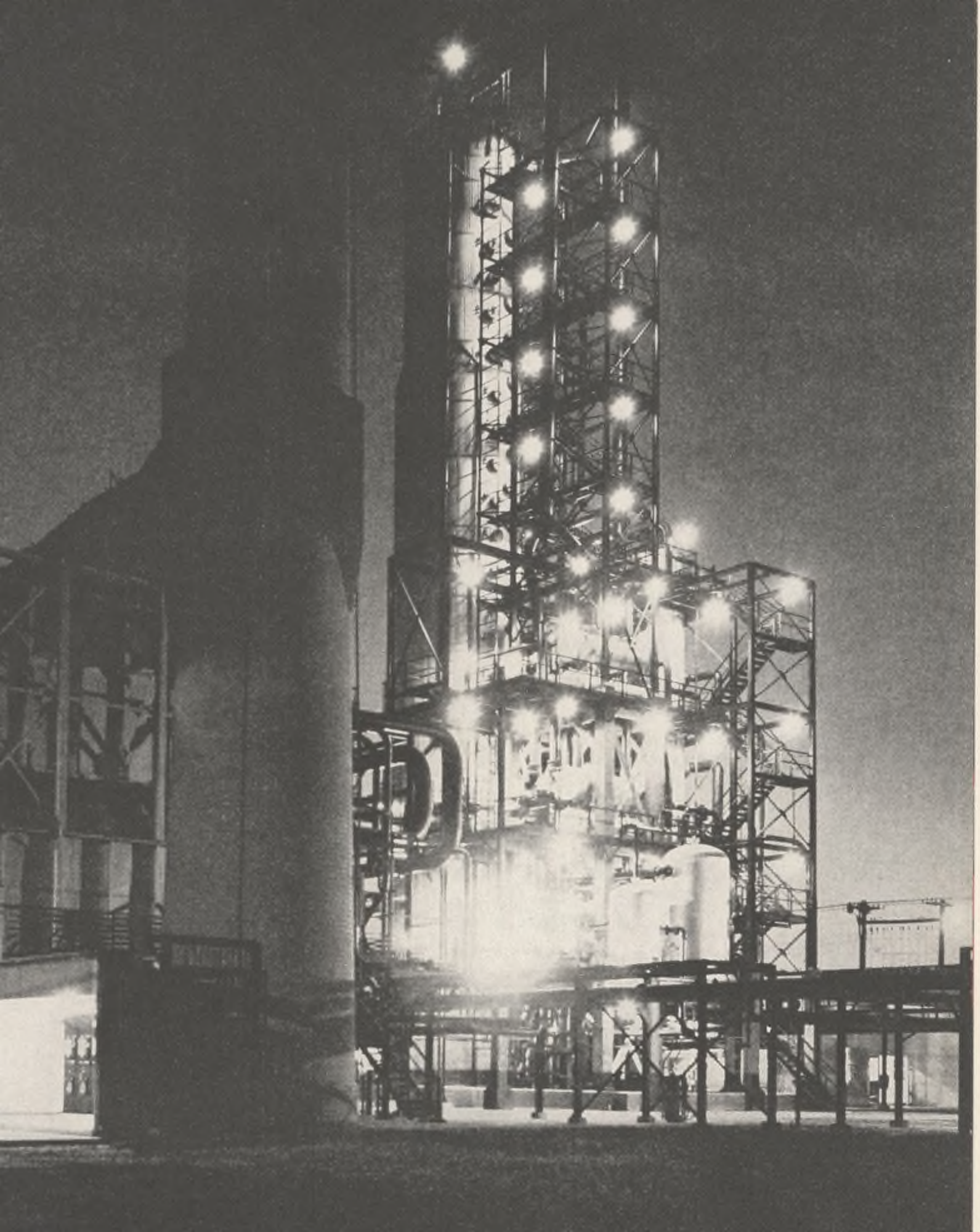
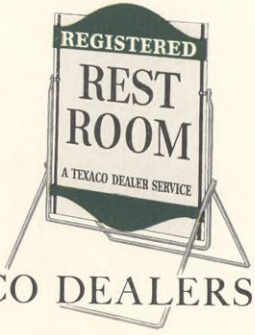


"I'm watching for that sign..."



You're Welcome AT TEXACO DEALERS

BACK ON THE AIR OCTOBER 1—Texaco Dealers invite you to tune in Fred Allen in the lively full-hour Texaco Star Theatre Program every week starting Wed. Night, Oct. 1—C. B. S.